

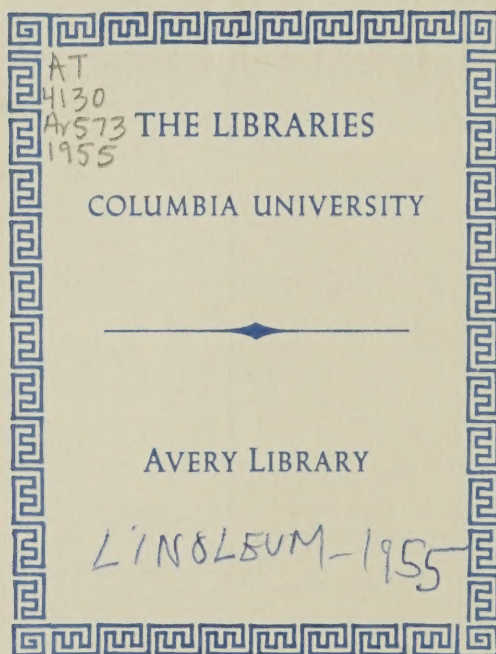
*Technical data
for Architects
and Designers*

 **Armstrong**

FLOORS AND WALLS

1955

E. STEWART REUSCHLEIN



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We acknowledge the assistance of the American Institute of Architects in editing the subject matter and form of presentation of this manual.

Armstrong
FLOORS AND WALLS
1955

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Federal Specifications

Copies of the performance records of Armstrong Products in relation to Federal Specifications may be obtained upon request. In nearly all cases, they easily exceed established Federal requirements.

Trade-Marks

Raybelle, Marbelle, Royelle, Spatter, Strypelle, Craftline, Decoresq, Granette, Corlon, Linotile, Excelon, Linowall, Linogloss, and Linostrip are registered trade-marks of the Armstrong Cork Company.

Armstrong
FLOORS AND WALLS

SECTION ONE

1955 Technical Data
for Architects
and Designers

ARMSTRONG
SERVICES
TO
ARCHITECTS

Armstrong Cork Company makes all types of resilient floors for all types of interiors. Almost any flooring requirement can be met with one or more of the floors in the Armstrong Line. As a result, we can offer unbiased recommendations on any flooring problem. Our main interest is, of course, to aid you in making a sound flooring selection. For complete information or recommendations on specific job requirements, contact the nearest Armstrong District Office listed below or write to Armstrong Cork Company, Floor Division, Lancaster, Pa.

Armstrong Sales Representatives, an organization of over 125 men located throughout the country, represent an exceptional fund of experience and training in resilient flooring. They will gladly consult with architects on any flooring problem and make specific recommendations for individual jobs.

Complete Specifications on the installation of any Armstrong Floors are available upon request. For abridged specifications, see Section One of this book, pages XXI through XXIV.

Armstrong Bureau of Interior Decoration, staffed with experienced interior designers, will, without obligation, suggest designs for floors, walls, and ceilings with complete room color schemes if desired.

ARMSTRONG OFFICES

ATLANTA	727 W. Peachtree Street, N. E.	KANSAS CITY 8	500 West 26th Street
BALTIMORE 2	114 South Street	LOS ANGELES 15	719 Bendix Bldg.
BOSTON 16	Publisher's Bldg., 131 Clarendon St.	MINNEAPOLIS 6	4539 Hiawatha Avenue
BUFFALO 23	1674 Kenmore Avenue	NEW ORLEANS 12	928-930 Tchoupitoulas Street
CHICAGO 54	13-136 The Merchandise Mart	NEW YORK 16	295 Fifth Avenue
CINCINNATI 2	138 E. Court Street	PHILADELPHIA 2	Robinson Bldg., 15th and Chestnut Sts.
CLEVELAND 14	2975 Superior Avenue	PITTSBURGH 22	24th Street and Allegheny River
DALLAS 7	1824 N. Industrial Blvd.	ST. LOUIS 10	1919 Hampton Avenue
DENVER 2	511-514 Interstate Trust Bldg.	SAN FRANCISCO 3	Western Merchandise Mart
DETROIT 26	Free Press Bldg., 321 Lafayette Ave., West	SEATTLE 1	803 Terminal Sales Bldg., 1932 First Ave.
HIGH POINT, N. C.	Southern Furniture Exposition Bldg.	CANADA	6911 Decarie Blvd., Montreal 29, Quebec



FLOOR DIVISION LANCASTER, PA.

Which floor goes where?

With the large variety of resilient flooring materials now available, architects may find difficulty in selecting the right resilient floor for installation over a particular type of subfloor. There are relatively few cases in which only one material will do a specific job. However, consideration of such factors as moisture and service conditions can help guide the selection of a resilient floor—no matter what subfloor is involved.

Moisture Conditions

There are three main types of moisture conditions which should be taken into account in choosing a resilient floor.

Concrete subfloors. The moisture content of concrete suspended above-grade, on-grade, or below-grade may seriously affect resilient flooring materials. The installation of resilient floors over concrete is more fully discussed on pages III and IV.

Wood subfloors. Wherever a wood subfloor is constructed over a crawl space, there is danger of moisture damage and consequent warpage to the subfloor, resulting in harm to the resilient floor itself. Crawl spaces should therefore be at least 18" high, and cross ventilated. Any of the various Armstrong resilient floors may be installed over wooden subfloors in good condition and adequately suspended and ventilated.

Surface moisture. Around drinking fountains, soda fountains, and in other areas where excessive water is likely to be spilled on the floor, moisture may find its way through the seams in the floor and attack the adhesive. In the case of Cork Tile, excessive surface moisture may damage the floor itself. In areas where such conditions of surface moisture are encountered, the floors recommended for on-grade installation over concrete subfloors—Excelon Tile, Asphalt Tile, Rubber Tile, and Custom Corlon Tile—will generally be found to give more satisfactory service. The floors should be installed with waterproof adhesives as specified.

Service Conditions

Resilient flooring materials should always be selected with service conditions in mind, since the wear a floor

receives has great bearing on how long it will retain its utility and beauty. Just as service conditions may range from light wear to constant foot-traffic and frequent cleaning—so do resilient flooring products vary in their abilities to withstand harsh treatment.

Light or heavy traffic. In residential installations, wear is not usually an important factor in the choice of a resilient flooring material. In most cases, these floors will be replaced for decorative reasons long before they wear out. Here, most resilient flooring products are satisfactory from the standpoint of wear, and the final choice is often based on price, preference for a design or pattern, or other considerations such as grease resistance. In commercial installations, on the other hand, excessively heavy traffic sometimes makes wear a limiting factor in flooring life. Where this situation exists, the use of heavier gauge products is indicated. Materials that provide the necessary superior wearing characteristics include Armstrong Linotile, Heavy Gauge Linoleum, the 1/8" gauge of Rubber Tile, Custom Corlon Tile, Asphalt Tile, and Excelon Tile. For a more complete discussion of resilient flooring gauges, see pages XVII and XVIII.

Exposure to strong sunlight. With the increasing use of glass curtain walls in commercial structures, and the enlargement of window areas in homes—resilient flooring in sheet form, and Linotile are considered especially resistant to sunlight. This may eventually affect the performance and appearance of many types of resilient floors, and cause fading, shrinking, brittleness, or chalking. Exposure to the sun represents a severe test of any resilient flooring materials, but Armstrong Linoleum, Corlon plastic flooring in sheet form, and Linotile are considered especially resistant to this type of potential damage.

Pigments are, of course, the limiting factor in the fade-resistant properties of resilient flooring materials, but great improvement in color stability has been made in recent years, especially when reds and blues are concerned. The predominantly dark patterns, however, still show the best light resistance. Pastel tones give the poorest performance in retaining their colorings under prolonged exposure to sunlight.

Maintenance. This is often an important factor in the

selection of resilient floors for commercial building. (The qualities of resilient floors in withstanding the effects of constant maintenance are discussed on page XXXV.)

Other Factors in the Choice of Resilient Floors

Apart from decorative effects, patterns, and colors, which are largely a matter of individual choice—there are a number of other factors to be considered in selecting a resilient flooring material. Some of the more important are underfoot comfort, noise or impact, electrical conductivity of the floor, ease of repairing damage, and the effect of seams.

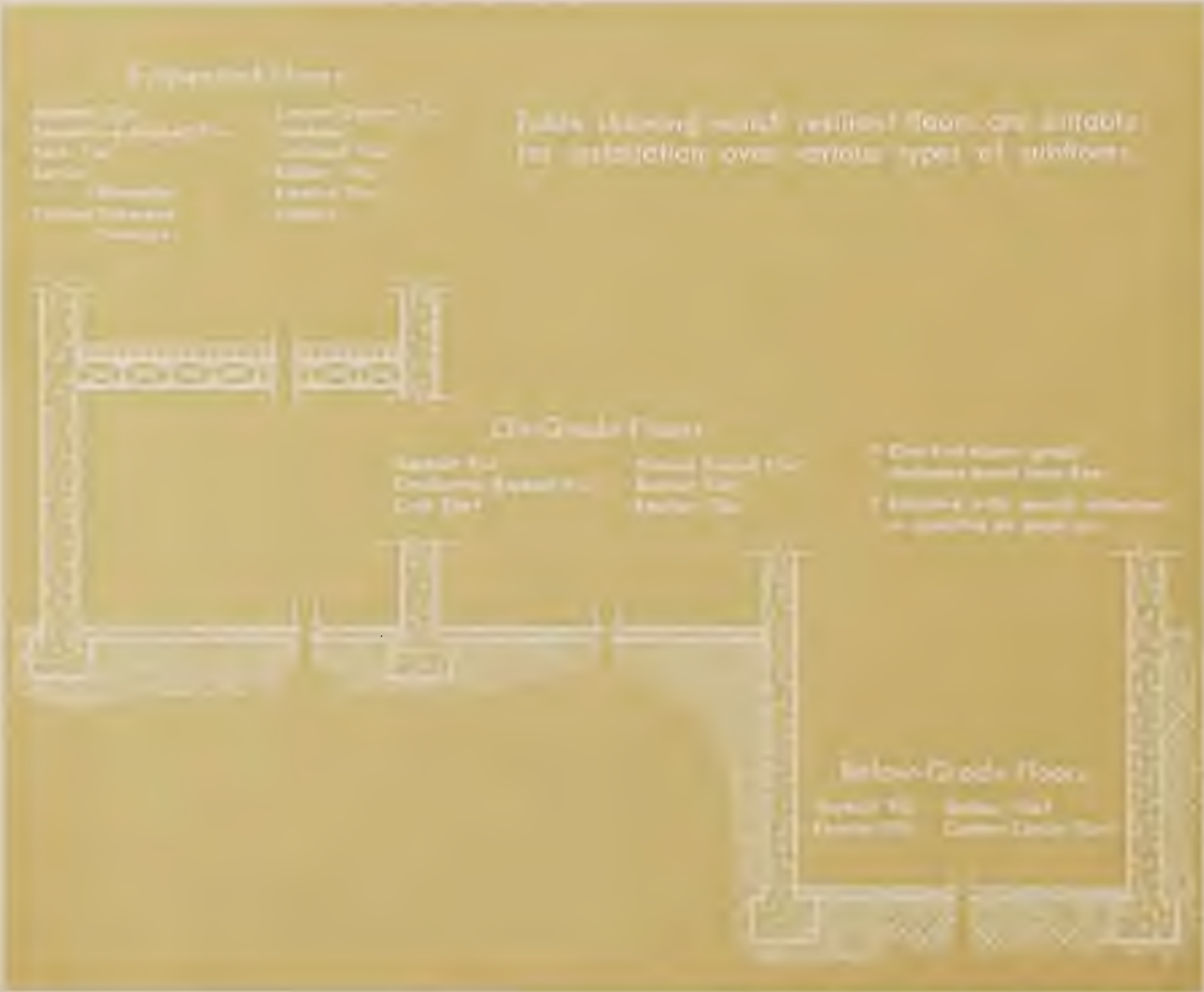
Resilience and noise on impact. These considerations are discussed in detail on pages IX and X.

Electrical conductivity. In buildings where explosives or combustible materials are handled, it is desirable to have a floor capable of conducting away accumulated static charges. At the same time, this floor should be non-sparking on impact. A special Conductive Asphalt Tile has been developed by Armstrong for this type of

installation. This floor has a heavy asphalt base, and its resins and fillers are specially formulated to produce a non-sparking material with exceptionally high electrical conductivity. This type of resilient floor is not recommended for use in hospital operating rooms or paint spray rooms.

Repairing damage. Occasionally, an accident may damage a portion of floor so seriously that replacement becomes necessary. All resilient floors are more easily repaired than marble, terrazzo, or concrete. If the damaged area is small, replacement is easier and less expensive with a tile floor than with sheet goods. However, cuts and tears in Armstrong Granette and Decoresq Corlon can be readily heat-sealed with a soldering iron. Linoleum can be patched with lacquer and linoleum binder.

Seams. The small number of seams and joints in sheet flooring allows few places for accumulations of dirt or corrosive materials. Armstrong Resilient Tile Floors are also easy to maintain. Precision factory cutting of these tiles assures tight joints and close-fitting edges over the entire floor.



Which resilient floor over concrete?

There are at least two reasons why it is now more important than ever for architects to be aware of the problems involved in specifying resilient floors for installation over concrete. First, the use of concrete in direct contact with the ground has vastly increased during the past decade. Second, the resilient flooring industry has developed new types of floors and improved others, especially to provide resistance against the harmful effects of alkaline moisture encountered in on- and below-grade concrete subfloors. This alkaline moisture problem is caused by moisture from the earth working its way up through the concrete. As the moisture rises, it combines with the alkaline salts in the concrete. The result is an alkaline moisture surface condition that can deteriorate the resilient floor or the adhesive, unless proper selection is made. The use of lightweight aggregates in any concrete subfloor—suspended, on- or below-grade—brings up a number of special problems which should be discussed specifically with the local Armstrong representative.

Adequate Drying Time

Wherever possible, concrete should be permitted to dry thoroughly for several months. This is especially important when floors susceptible to alkaline moisture are to be installed. In all cases, the concrete subfloor should be

tested for moisture before resilient flooring is installed. When suspended concrete is known to be completely dry, any resilient floor may be specified as for wood subfloors.

Since the degree of moisture present is the main factor determining the seriousness of the alkaline condition, resilient floors which are suitable for installation over concrete in contact with the ground are usually divided into two categories—those which may safely be specified for use on grade or below grade, and those which are suitable for use on grade but not below grade. As is to be expected, the “moisture problem” in basements is more severe than that encountered at grade level.

On-grade or below-grade. For years, asphalt tile has been the only resilient floor which could safely be specified for basement use, and it remains an excellent low-cost floor for this purpose. Today, Armstrong Excelon Tile is also recommended for basement and on-grade floors, as are Armstrong Rubber Tile and Custom Corlon Tile when installed with adhesives as specified on page XXX.

On-grade. Armstrong Rubber Tile and Custom Corlon Tile may now safely be specified under normal on-grade conditions over concrete by the use of a special adhesive, Armstrong No. S-225 On-Grade Cement.



This drawing shows how moisture from the ground or from an inadequately ventilated air space below penetrates the concrete slab, bringing alkali to the surface in solution. This solution attacks the oil binders of most resilient flooring materials, causing a chemical change. Linoleum and other resilient flooring materials may be used on dry suspended floors, but on grade-level and below-grade floors which contain ground moisture, asphalt tile or Excelon Tile should be installed. In addition, rubber tile and Custom Corlon Tile may now be installed over on- or below-grade concrete subfloors. (See paragraphs “On-grade,” above and top of page IV, for special cork tile conditions.)

More than six years of laboratory tests, and trials under actual conditions, have proved that such installations will give satisfactory service for the normal lifetime of the tile. Armstrong Cork Tile may be installed over concrete subfloor in contact with the ground with No. S-225 On-Grade Cement if the surface of the slab is at least 12 inches above grade, the ground slopes away from the building, and the slab is well cured and visibly dry.

Wet Floor May Appear Dry

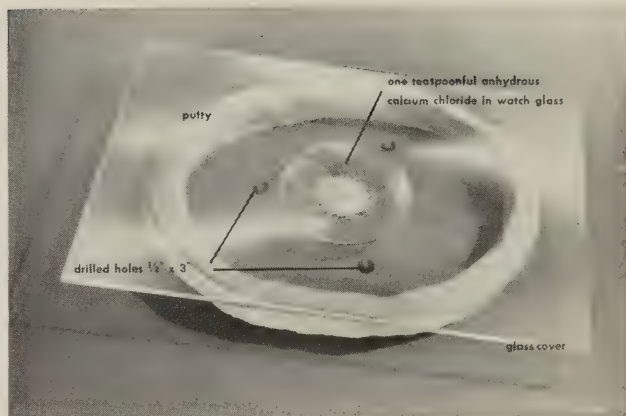
It is never safe to assume that a concrete slab will always be dry because it has appeared dry for several years. Rapid evaporation at the surface will make a concrete floor appear free from moisture but when a resilient flooring is cemented to this surface, evaporation is prevented or slowed down and the alkaline solution collects under the flooring material.

There have been many attempts to find ways to waterproof concrete slabs to make on- and below-grade use of all types of flooring materials possible. To date, the only method which has been proved to work satisfactorily is the membrane method. Even when resilient floorings approved for use without membranizing are specified, it is advantageous to include a membrane in slab floors when possible. Individual recommendations for membranizing procedures should be discussed with the local Armstrong representative. In any case, it is highly desirable when concrete slabs are in direct contact with the ground, that the slab be placed on a well-drained base.

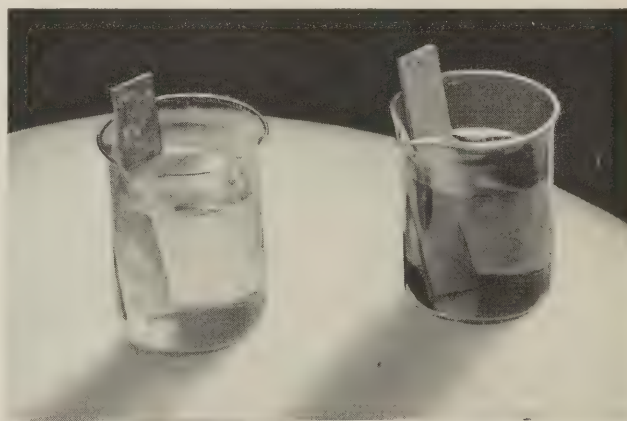
Regional Conditions

While alkali and moisture present difficulties everywhere, there are a few sections of the country where the aggregates used in compounding concrete contain excessive amounts of alkaline salts. As the subsoil moisture seeps through such concrete subfloors, it dissolves the alkaline salts within the concrete, carrying them to the surface. These salts accumulate underneath the tile or are deposited on the edges of the tile as the moisture evaporates. These alkaline deposits build up over a period of time and may gradually force the tiles up from the subfloor or permanently adhere to the surface edges of the tile unless removed promptly. Generally this condition is of a temporary nature and will gradually be eliminated as the continuous passage of moisture dissipates the alkaline salts within the subfloor. An experienced local floor contractor is the best source of useful advice where these special circumstances are encountered.

Another important factor in considering the correct choice of a resilient tile for installation over concrete is the alkali resistance of the pigments used in its manufacture. Armstrong Laboratories have worked on this problem for years and have developed specifications for alkali-resistant pigments for all the flooring materials recommended for use over concrete in direct contact with the ground. These pigments prevent fading and "color bleeding" of the tile.



This moisture test should always be made on newly poured suspended concrete floors of all types before the installation of materials that are affected by alkaline solutions. If floor is too moist, calcium chloride is partly dissolved in 24 hours.



Immersion for 2 hours in a 2% solution of sodium hydroxide determines color permanency of pigments in tiles specified for use over below-grade concrete. Beaker at right shows bleeding of colors from pigments that are not alkali resistant.

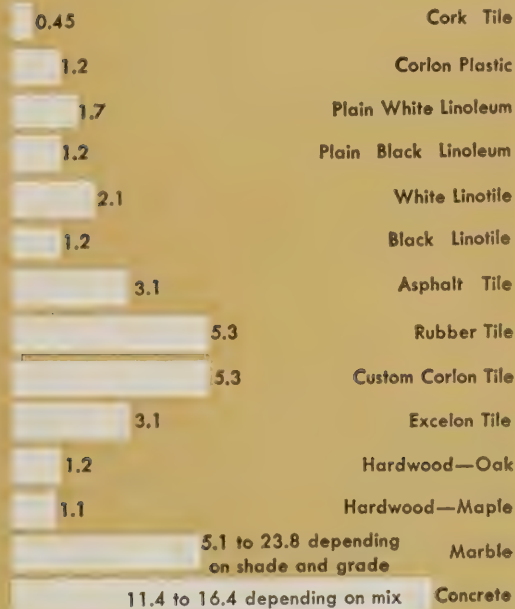
Development of a special adhesive, Armstrong No. S-104 Chemical-Set Waterproof Cement, allows installation of Rubber Tile and Custom Corlon Tile over below-grade concrete. A two-part adhesive that sets through chemical action, it is mixed on the job and each area installed within a specified time period.



The performance of resilient flooring over radiant heating

Thermal Conductivity

K-90 — BTU/HR./SQ. FT./°F/1" THICKNESS*



*"K" values do not include lining felt.

Since resilient floorings are generally used in the manufactured thickness only, the conductance is the real value desired for any calculation of heat flow. To obtain the conductance value simply divide the thermal conductivity by the thickness of the material. For example, white Linotile of .125 thickness with a "K-90" factor of 2.1 will conduct 16 BTU's/hour/square foot/degree F.

For exacting calculations, it should be kept in mind that the thermal conductivity of flooring materials will vary somewhat according to type, color, and the method of application of the material to the floor. In any case where the thermal conductivity of a flooring material is of special importance to an installation, contact the Armstrong Cork Company for specific recommendations. However, for radiant heating estimation purposes, it is safe to assume that the temperature difference between the surface of the subfloor and the surface of the resilient floor (except cork tile) will be about 2.5° F. With cork tile floors, the difference is between 9° and 15°.

Increased use of radiant heating in modern homes and buildings has caused many architects to request more information on the performance of resilient flooring materials over heated subfloors.

In order to be able to give the architect specific and unbiased recommendations for flooring installations over radiant-heated floors, the Research and Development Center of the Armstrong Cork Company has conducted a series of extensive tests since 1944. Under both experimental and on-the-job conditions, observations have been made of the effects of normal and severe floor temperatures on the hardness, composition, and indentation properties of all Armstrong Resilient Floors.

The results of these tests show that there is virtually no loss of heating efficiency through the use of resilient flooring materials. With floors of asphalt tile, Excelon Tile, linoleum, Linotile, Corlon, and rubber tile, temperature difference between the surface of concrete subfloors, commonly used in radiant heating installations, and the resilient flooring surface, is about 2.5 degrees F. With floors of cork tile, which has a thermal conductivity or "K" factor lower than the other resilient flooring materials, the difference is several degrees F. greater. None of these temperature variations, however, is great enough to result in appreciably increased fuel consumption since the time lag required to bring resilient flooring, of the thicknesses commonly used, to the operating temperature of radiant heating systems is insignificant.

No Harmful Effect

The observations of the Armstrong Research and Development Center have also shown that floor heat, within the limits commonly recommended for radiant heating, has no harmful effect on either the resilient flooring or the adhesives used in installation, provided that the temperature of the floor is kept at a level below 85° F. Both laboratory tests and actual field experience indicate that resilient flooring materials can be chosen for radiant-heated subfloors by exactly the same standards as those where other types of heating are employed. Each type of resilient flooring material is installed over a radiant-heated subfloor with the same adhesives and in the same manner as recommended for conventional floors. It should be noted in this connection that the use of radiant heating does not change the limitation that only certain types of resilient floors may be installed over concrete slabs in direct contact with the ground. (See pp. III and IV.)

The American Society of Heating and Air Conditioning

Engineers has established 85° F. as the maximum surface temperature for radiant-heated floors. Floor temperatures higher than this are considered uncomfortable underfoot. Because of their thermoplastic quality, asphalt tile and plastic asbestos tiles become slightly softer, and indent more easily, when radiant heating temperatures run above normal. The usual measures to protect resilient flooring against indentation, described on Page XXXV of this book, are adequate to prevent indentation in Armstrong Asphalt Tile or Excelon Tile when floor temperatures do not exceed this standard 85° F. maximum.

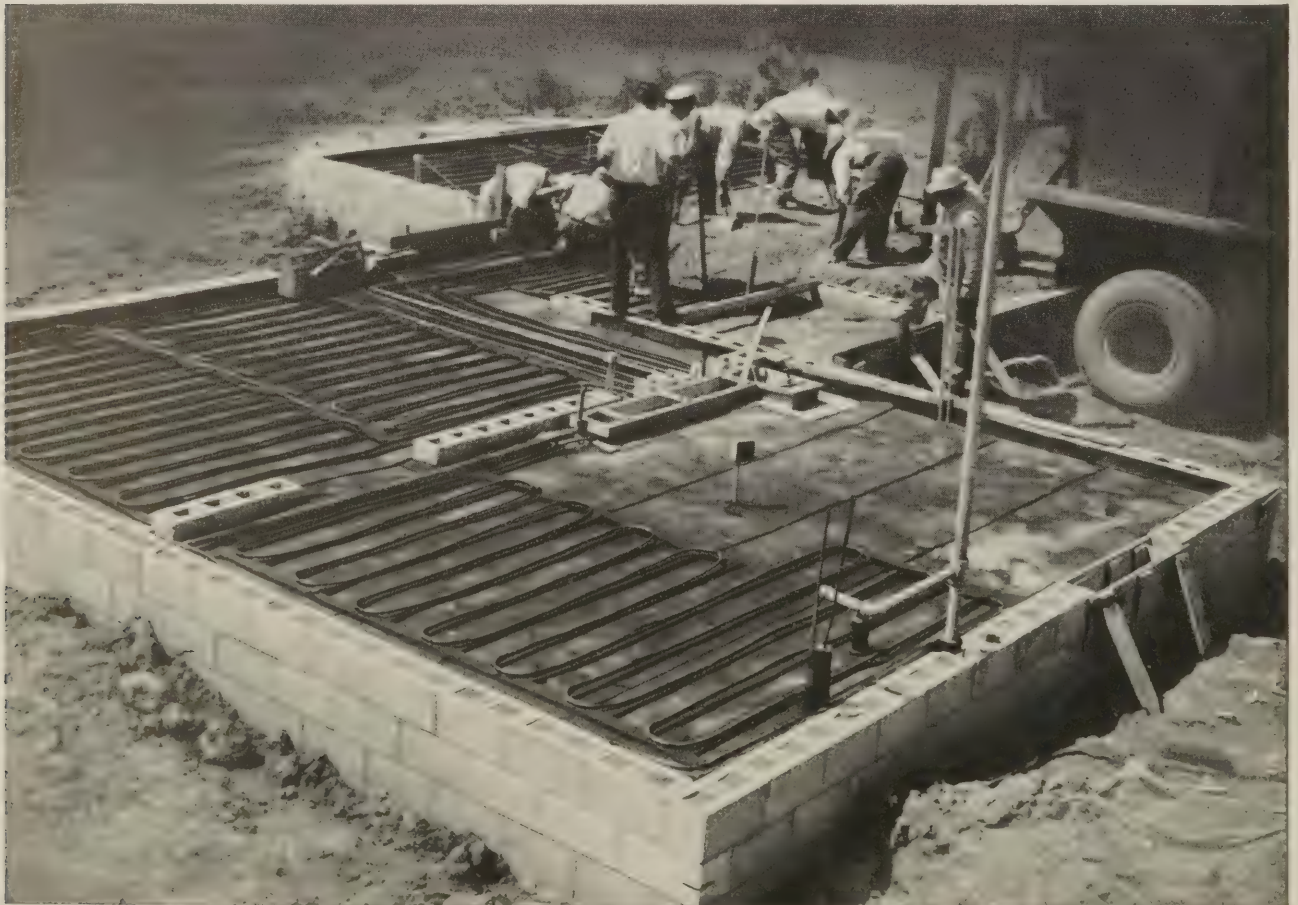
Certain characteristics of radiant heating systems as recommended by the American Society of Heating and Air Conditioning Engineers have an important bearing on maintaining comfort during cold weather without requiring floor temperatures above 85°. These are adequate perimeter insulation for the slab, appropriate insulation of the building, and reasonably low infiltration. The pipe grid layout should give adequate coverage without excessively high water temperatures, and the spacing of pipes should be such that there is a minimum of temperature variation between the area directly above the pipes and the area above the space between them. While none of these design features is within the appropriate scope



Section through a floor panel using Armstrong Perimeter Insulation. Note that the insulation extends around the edges of the slab in contact with all the exterior foundation walls.

of Armstrong recommendations to architects, they have all been considered by the Armstrong Research and Development Center in evaluating its test results. When these standards are used as the basis for the design of radiant heating systems, Armstrong Resilient Floors may be specified with assurance of the same excellent performance they have demonstrated in other applications.

This photograph shows the final construction stage of a radiant heating installation. The method of perimeter insulation described in the figure above is being used. The pipe circuit is closed and tested under pressure before concrete is poured.



Relative costs of resilient floors

Beyond the service and style variations in the many types of resilient floors, there are also wide differences in costs. They range all the way from the economy flooring materials, such as the "A" colors in asphalt tile and light gauge linoleum, to the luxury floors of rubber tile and vinyl-plastic Custom Corlon Tile. In addition, costs of resilient floors can vary widely depending upon the design. A floor in a single color or styling laid wall to wall generally is less costly than a complex custom styled floor involving exceptional craftsmanship and fine attention to detail on the job.

As manufacturers of resilient floors, the Armstrong Cork Company cannot safely quote actual installed prices since there are many factors that affect the cost of the floor installation beyond the price of the material. As mentioned above, the floor design alone can have an important bearing on the cost. Other items that must be taken into account include subfloor conditions and labor rates and efficiencies. Such factors vary from one section of the country to another as well as from job to job.

An outright specification for Armstrong materials will still result in competitive bidding from a number of flooring contractors and at the same time assure the client of top quality materials. The invitation to bid should indicate all the items which fall within the scope of the flooring contractor's work in addition to the flooring materials. The contractor's ability and reputation should then be considered by the architect or the client in determining the best value.

The price ranges into which the different types of resilient flooring materials can be classed are shown on the chart on the next page. From this chart it will be seen that asphalt tile is considered the lowest cost resilient flooring, with the "A" or darker colors the most economical and grading up to the brighter "D" colors. Linoleum is next in line. However, the lighter gauges of linoleum are about equal to the most expensive colors in asphalt tile.

Further up the price scale is Excelon tile, cork tile in the $\frac{1}{8}$ " gauge, Linotile, rubber tile, and Custom Corlon tile in the order named. Differences in gauge, color, and styling within a resilient flooring line all have a bearing on the cost of the job.

When fairly accurate costs are required prior to receiving bids, it is suggested that you call on your Armstrong representative for assistance. By determining the various factors involved, he can help you work out an approximate cost of the proposed flooring that will be suitable for estimating purposes.



Floor designs can be effective without increasing the cost of the installation. This floor of Armstrong Rubber Tile is an example. Three colors were used in a simple diagonal design.

Elaborate custom styling such as in this floor of Armstrong Linoleum requires intricate cutting and fitting. The labor involved can add considerably to the cost of the installation.



Approximate installed prices per square foot

(Over concrete, minimum area 1000 square feet)

20¢ to 35¢

1/8" Asphalt Tile—Group A
Group B

Linoleum, light gauge

3/16" Asphalt Tile—Group A

1/8" Asphalt Tile—Group C

3/16" Asphalt Tile—Group B

1/8" Asphalt Tile—Group D

35¢ to 45¢

Linoleum, Standard, Plain, Jaspé, Raybelle,
Royelle, Marbelle

3/16" Asphalt Tile Group C

Service Gauge Excelon

Standard Gauge Linoleum Tile

Standard Craftline, Straight Line

Spatter, Embossed

Plain (Special Colors)

1/8" Battleship Linoleum

1/8" Greaseproof Asphalt Tile

3/16" Asphalt Tile Group D

45¢ to 60¢

Terrazzo Corlon

Decoresq Corlon

Moresq Corlon

1/8" Marbelle Linoleum

1/8" Textelle Linoleum

1/8" Plain Linoleum (Special Colors)

1/8" Cork Tile

1/8" Excelon

60¢ to 70¢

Granette Corlon

1/8" Rubber Tile

Cork Tile 3/16"

1/8" Linotile

70¢ to 90¢

Flagstone Asphalt Tile

Custom Corlon 3/32"

Cork Tile 5/16"

Rubber Tile 3/16"

Custom Corlon 1/8"

35¢ to 50¢
per lineal foot

Top-Set Asphalt Cove Base

Top-Set Rubber Cove Base

4" & 6"

Comfort, noise, and indentation are controlled by . . .

The resiliency of floors

Technically speaking, resilience is a property involving the elastic energy inherent in a material which causes it to regain its original shape when an external load is withdrawn. For practical purposes, however, the resilience of a floor, in its broadest sense, affects more than its properties of recovery from indentation, important though these may be.

For the purposes of this article, resiliency is treated in the more comprehensive sense—as affecting underfoot comfort, and the noise generated by foot traffic, as well as the floor’s resistance to or recovery from indentation by foot traffic and other short-term loads.

Recovery from indentation. In assessing the resilience of any particular flooring, the momentary indentations involved in walking are those which are of primary importance. These pressures are quite high—often as much as several thousand pounds per square inch when contact is first made with the floor under the edge of the heel. The method ordinarily used for measuring a floor’s resilience is the measurement of its recovery from short-term indentations. Such measurements are, of course, of great practical assistance to architects in making their selection of floors—especially for heavy traffic areas. However, the standard testing procedures required by Federal Specifications for different types of flooring materials vary significantly. Therefore, no direct numerical comparison of the short-term indentation characteristics of various types of resilient floors can be made.

Inability of a floor to recover from the indentation caused by temporary loads will also cause the floor to present

an irregular and unsightly surface and to become difficult to keep clean.

Underfoot comfort. While this is an important consideration in the selection of floors in any building, it becomes a vital factor in the many areas where prolonged periods of walking or standing tend to cause fatigue. Retail stores, hospital corridors, restaurants, and cafeteria service areas are obvious examples of locations where the efficiency of personnel may be seriously affected by comfort underfoot—and where the choice of the right floor may help considerably to reduce fatigue

RESILIENT FLOORS RATED IN ORDER OF RESILIENCE

- 1. Cork Tile
- 2. Rubber Tile & Custom Corlon Tile
- 3. Linoleum and Sheet Corlon
- 4. Linotile
- 5. Excelon Tile
- 6. Asphalt Tile

Maximum Static Load Limits for Armstrong
Resilient Floors

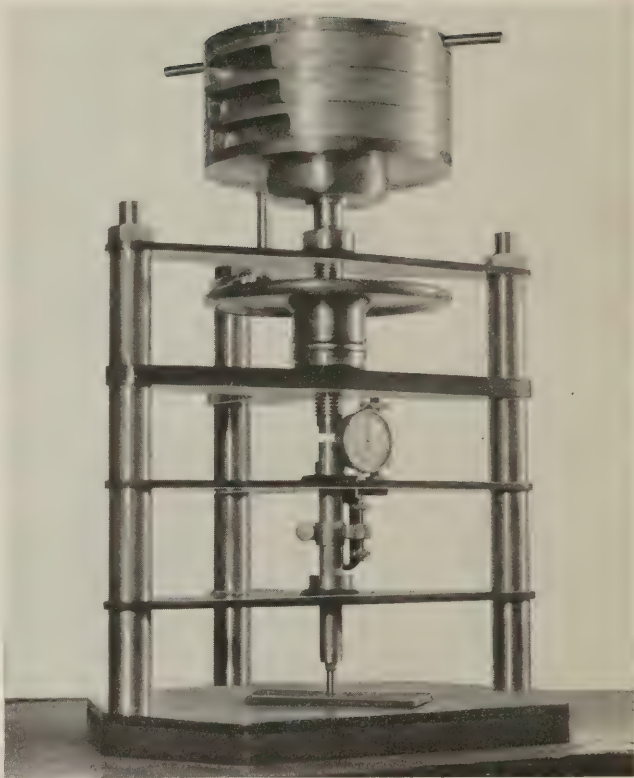
Type of Flooring	Load Limit Lbs. per Sq. Inch
Asphalt Tile and Excelon Tile	25
Cork Tile	40
Linoleum and Corlon (felt-back)	75
Linoleum and Corlon Tile (felt-back)	75
Linotile, Rubber Tile and Custom Corlon	200

The table above indicates the maximum safe load limit on Armstrong Resilient Floors before the material becomes slightly indented. These figures are the results of indentation tests conducted by the Armstrong Research Laboratories and are used as a basis for computing the area of bearing surface of Armstrong Furniture Rests. These Furniture Rests and Cups are recommended to eliminate excessive indentation in resilient flooring caused by heavy static loads. See page XXXV for recommendation of furniture rests.

and increase efficiency. The accompanying chart (page XI) has been prepared by the Armstrong Research and Development Center for the purpose of helping architects to ascertain the relative “comfort” of all types of floors. It must be emphasized that this chart is relative rather than absolute, since underfoot comfort is affected by factors other than the composition of the floor itself—such as the underlayment and adhesive used in its installation.

Quietness. With the public more aware of the ill effects of noise than ever before, the reduction of sound from floor traffic becomes increasingly important to architects. The impact of footsteps on hard floors is a common source of annoyance—and in areas such as corridors, where the sound tends to reverberate through adjoining rooms, impact noise can become a very serious problem. Resilient floors, because of their composition, give under the impact of footsteps, dropped objects, and rolling wheels. This cushioning effect actively reduces traffic noise. All types of resilient floors rate well as “low noise producers” in comparison with concrete or marble. Their relative noise-on-impact qualities are shown below.

It should be remembered that, while resilient floors will soften the sound of foot traffic, they will not appreciably subdue noise originating from other sources. “Sound conditioning”—or the absorption of noise such as the clatter of typewriters, kitchenware, and conversation—can best be accomplished by the use of acoustical materials. Neither resilient floors nor acoustical materials stop the passage of noise through the building structure.



A standard instrument used to measure the recovery of resilient flooring materials from short-term indentation is the Armstrong Indentation Tester. Developed in the Armstrong Laboratories, this instrument is one of several used in determining the data on resilience of floors shown on these pages.



UNDERFOOT COMFORT

These ratings are based on data and experience obtained in the
Armstrong Research and Development Center

Concrete

Soft Wood

Hard Wood

Plywood

Asphalt Tile

Cork Tile

Corlon

Excelon Tile

Linoleum

Linotile

Rubber Tile

Fair

Good

Excellent

NOTE—The spreads shown are based on differences in underlayments and gauges.

Armstrong Rubber Tile combines long wear and ease of maintenance with noise-reducing properties. In New York's Irving Trust Co., 42nd St. Branch, an air of dignity is achieved by the handsome design and quietness of this Armstrong Rubber Tile floor. Vorhees, Walker, Foley and Smith, Architects.



Armstrong Linoleum, a highly resilient flooring, is ideal for hospitals and other interiors where long wear, ease of maintenance, and a high degree of quiet are essential. The corridor below is one of the Armstrong Linoleum installations in the Midland Hospital, Midland, Michigan. Alden Dow, Architect.



Grease and alkali resistance of resilient floors

In commercial or residential installations, resilient floors may be subjected to three main sources of contamination from grease and alkalis. Contamination may be momentary, such as spilled grease, solvents, or alkalis which are promptly wiped up. Such short-time contamination presents no problem, if the cleaning is thorough and the grease or alkali has not seeped down between joints or seams in the floor. Of greater problem is contamination that is more prolonged—generally by contact with milder concentrations of grease or alkali caused by cooking residue, spillage, kitchen vapors, strong cleaners, or improper maintenance. The third usual source of contamination is the alkaline moisture from the earth passing through grade-level and below-grade concrete. The problems encountered under this condition are described in detail in the section, "Which resilient floor over concrete," pages III and IV.

The Armstrong Research and Development Center devotes continuing attention to developing materials with improved grease and alkali resistance for a wide variety of conditions to which floors may be subjected. The objective is to produce flooring materials which will not soften, swell, discolor, or change their physical properties under normal, accidental or even prolonged contact with grease and alkalis.

Testing

Laboratory tests are performed on resilient flooring materials with three considerations in mind. First, the tests must establish the degree of resistance to grease and alkalis of the various floorings made. Secondly, comparisons must be made of the various grades of each type of flooring. And thirdly, the information arrived at must be applied to the experimental production of new types of

resilient flooring, and these, in turn, must be tested.

Although this has been a subject very important to the flooring industry and one on which much work has been done, practically no standard test has been generally accepted in the trade.

There are now, however, a number of accurately controlled testing procedures, in the development of which Armstrong has played a major part. These have given rise to the following uniform terms which may assist the architect in his choice of a resilient floor.

Grease resistant—flooring for residential use, and tested in vegetable oils.

Greaseproof —flooring for residential and commercial use, and tested in mineral as well as vegetable oils.

Armstrong Testing Procedures

In the Armstrong Research and Development Center, the grease-and-alkali problem has been under study for many years, and several tests have been developed that produce valuable results.

How well laboratory tests conducted in the Armstrong Research and Development Center have correlated with actual behavior in the field is evidenced by the fact that Armstrong has developed a number of flooring materials with good to excellent grease and alkali resistance. However, claims made during the past few years for the "plastic" flooring have accentuated the need for sharper distinctions in testing methods. In fact, some of these tests which Armstrong has used in the past are no longer precise enough to evaluate the grease and alkali resistance of the various grades of plastic-type flooring now offered.

Armstrong Abrasion Tester. The Armstrong Research and Development Center has developed an improved method of determining grease resistance by using the Armstrong Abrasion Machine pictured on page XIV. This technique permits a quantitative determination of the grease resistance of the flooring material by measuring the abrasion resistance before and after contamination with grease or oil. For floorings with burlap or felt backing, contamination is measured for the surface only. Homogeneous flooring materials, such as asphalt tile and rubber tile, however, can be totally immersed and then tested by means of the Abrasion Machine.

The Abrasion Machine provides a means of accurately and quantitatively assessing the effects of greases and oils. Because the machine is capable of testing six or more samples of different materials at the same time, it supplies useful comparative data.

Immersion testing of Armstrong floorings. Immersion testing procedures for various types of floors measure the effects of prolonged exposure to grease or oils. (See Illustration 2.) Materials are immersed for varying periods of time up to two years, while being continually observed for signs of deterioration.

Value of these tests to the architect. Armstrong testing procedures have led to steady improvement of the grease-

and-oil-resistant properties of Armstrong resilient flooring materials.

Armstrong Rubber Tile is now freely offered for use in kitchens. Both Rubber Tile and Armstrong Custom Corlon Tile may be specified below grade if Armstrong No. S-104 Chemical-Set Waterproof Cement is used, and on grade with No. S-225 On-Grade Cement. Excelon Tile, a vinyl-plastic asbestos tile, has been developed to provide an exceptionally high degree of resistance to both grease and alkali. Regular Asphalt Tile has low grease resistance, but is highly resistant to alkali. Greaseproof Asphalt Tile also retains good alkali resistance. Corlon and Custom Corlon Tile are exceptionally resistant to both grease and alkalis.

At present Armstrong Linotile and the greaseproof tiles are virtually unaffected by the total immersion tests for grease-oil resistance, and Armstrong Rubber Tile is only slightly softened. Although extremely severe, this test has great value because materials are equally exposed to grease and oil for long periods of time.

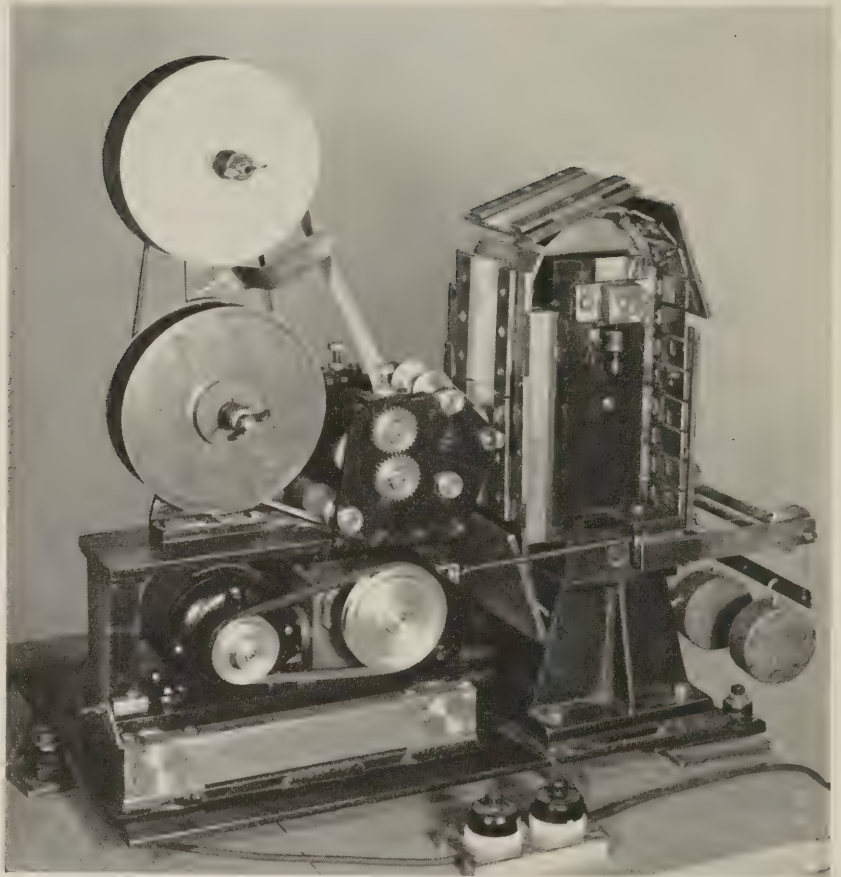
The qualitative resistance of Armstrong floorings is shown in the accompanying table—and these floorings should be selected for specific installations according to the degree of alkali or grease resistance required.

Grease-alkali resistance chart

GREASE RESISTANCE

		Poor	Fair	Good	Excellent
SURFACE ALKALI RESISTANCE	Excellent	Regular Asphalt Tile (A & B colors)	Regular Asphalt Tile (C & D colors)		Corlon Custom Corlon Excelon
	Good			Rubber Tile	Grease-proof Asphalt Tile
	Fair		Cork Tile		
	Poor				Linoleum Linotile

Flooring materials to be tested in this machine are first immersed in grease or oil for a standard period of time. The exposed specimens are then abraded at the same time with other samples that have not been exposed. Thus, a direct comparison is obtained in terms of change in abrasion loss.



In this long-time immersion test, a variety of flooring materials has been exposed to grease and oils (or a combination of both) for periods as long as two years. Visual examination of surface characteristics and reactions is the testing procedure used here.

An increasingly important factor in choosing floors, their . . .

Light reflectivity

Today, there is a growing awareness on the part of industry, education authorities, hospitals, and other institutions—and even the home owner—of the effects of the brightness and quality of light. As a consequence, the light reflectivity factor of floors takes on added importance to the architect. This is particularly true in view of the fact that the floor is often the largest single area of decorative color in an interior.

The percentage of incident light reflected by a floor—or any other decorative medium—must be adjusted to take into consideration the fact that the human eye is more sensitive to some colors than to others. A person with normal color vision is most sensitive to a wave length of about 570 millimicrons—a greenish yellow in approximately the middle of the visible spectrum—and sensitivity falls away toward both the red and violet end of the spectrum. The accompanying table of light reflectivity values of various types of resilient flooring is therefore weighted to take this eye-sensitivity into account.

In addition to color, gloss also has some effect on the light reflectivity of a material—a high gloss sample will have a lower light reflectance. This is illustrated below.

In Fig. 1, a matte surface reflects light in all directions but, as shown in Fig. 2, a high gloss surface reflects most of the light in the direction of specular reflection and a relatively small amount in the direction in which the light reflectance measurement is made. If this material is viewed at the angle of specular reflection, it will appear

very bright, but what will be seen will be a more or less distinct image of the source of illumination combined with light reflected by pigment particles of the material. Therefore, the colors in a high-gloss waxed and polished floor will appear somewhat darker than the same colors in a material with a matte finish. This is especially true of the darker colors. For example, the black in Armstrong Imperial Black Custom Corlon Tile, Pattern No. 462, with its high gloss, appears to be much darker than the black in Ebony Asphalt Tile, No. B-905, which has a low gloss surface.

Apart from its effect on the light level of the room, gloss has a considerable influence on the appearance of the finished floor. Very glossy flooring materials tend to show up minor irregularities in the subfloor surfaces. Imperfections that may not be noticeable in the bare subfloor become obvious when the resilient floor has been installed. *Very glossy materials, therefore, require careful subfloor inspection and preparation in order to insure the best appearance. Extra maintenance care also is required.*

Since the great majority of resilient floors are made of combinations of different colors, the light reflectance figures shown on the chart are average values based on a large area of the pattern. These values range from a high of 55% for Granette Corlon, Pattern 6107, to a low of 2.2% for plain black rubber tile. In rooms where the light reflectance of the floor is of importance, practically any value can be obtained by choosing an appropriate pattern from the various types of Armstrong resilient floors.



LIGHT REFLECTIVITY VALUES OF ARMSTRONG RESILIENT FLOORS AND WALLS

Light Reflectivity in %	Linoleum						Resilient Tiles			Plastics			Wall Covering	
	Plain No.	Decoray, Jaspé & Ray-belle No.	Textelle, Royelle & Mar-belle No.	Stry-pelle & Straight Line No.	Craft-line & Em-bossed No.	Spatter Lino-leum No.	As-phalt Tile No.	Lino-tile No.	Rub-ber Tile No.	Sheet Corlon	Cus-tom Corlon Tile	Ex-celon Tile	Lino-wall	Cork Tile & Cork-wall
55 to 50	23		015							6012 6105 6107			707 708 712	
50 to 45	48	78	09 030			5000 5015		171	609 653	6109	460		705 706	
45 to 40		76 1803	031 032 043 044 1503		5390	5005		174	651 674 681	6010 6100 6301		735 742 774	700 717	443
40 to 35			1502 1505 1508 1510 1515	1711	5322 5430	5007 5017	D-927	178	612 664	6013 6015 6120 6121 6300	465 472 474	770 775 776	733 734	
35 to 30		15 1800 1805	034	1611 1613 1614 1712	5302 5330	5016 5018 5023	D-900 D-942	176 183	610 646	6103 6200 6201 6310	473	736 740 771 781 782	732	
30 to 25	45	5 72 74 81 1802	014 018 026 036 042 045 1500 1501 1513 1516 1518 1552	1690 1710	5110 5130 5131 5300 5320 5351 5393 5793	5004	C-926 D-970 C-971	170	611 622	6014 6206 6207 6312	461 467 469 471	737 778 779 780 783	701 730	
25 to 20	24 49	9 80 83 86 87 1804	08 024 041 1509 1511 1512 1514 1519 1550	1602 1610 1612	5100 5111 5112 5310 5392 5792	5014 5019	D-911 C-944 C-947 C-961	173 185	656	6209 6311 6313	464	738		410 440 441
20 to 15		4 13 16 71 77 82 1801	02 022 1517 1551	1605	5120 5790 5823 5860	5012 5022	C-946	179 181	625 676	6011 6102 6208	466	741 773 777 784		442
15 to 10	22 34 39 42	1 19 70 73 79			5121 5311 5321 5352 5822 5861		C-902 C-907	172 175 177 184	652 668	6104 6204 6205	463 470	739 785 786		
10 to 05	20 25 46	85	017 029 1506		5102 5471	5008 5011 5013 5020 5021	A-200 B-905 B-919 C-924 B-935 B-936 D-952 D-964		626 650 665 689	6202 6203	468	772	731	411
05 to 00	21 27	84	021 1507		5101	5001	A-210 B-918	180 182	613 649 666 695	6101 6108	462			

Desk Top Linoleum Reflectivity Values—Pattern No. 416 = 36%—Pattern No. 415 = 36%—Pattern No. 426 = 9%
Pattern No. 420 = 8%—Pattern No. 421 = 4%

For today's buildings, here is some helpful information on the . . .

Gauges of resilient flooring

The most obvious reason for concern with the gauge or thickness of a resilient floor is its effect on the length of service it will give. Once this was the most important factor in the selection of flooring. Until recently, the gauges manufactured in the U.S.A. closely followed the example of those made in Europe. There, construction was expected to last for centuries, and demanded the thickest gauges that could be produced, with little or no heed to the cost of such materials. "Battleship" linoleum, for instance, meant 3/16" or thicker, and was actually made in both 1/4" (0.250") and occasionally 8 mm. (0.315") to special order.

Today, as a result of long experience in the resilient flooring industry, modern manufacturing methods, and improved materials have been developed, imparting vastly superior qualities of durability—and far greater economy. Gauges which were once regarded as being too "light" for satisfactory performance now appear more than adequate for most residential and commercial areas. Furthermore, with the modern trend toward frequent redecoration, durability has become a somewhat less important consideration, as flooring is often replaced when far from worn out.

There are, however, other properties of resilient flooring that are affected by its gauge . . . notably appearance and comfort. The thicker the gauge, the better the resilient floor hides subfloor irregularities, and the better appearance. The floor's comfort value and quietness also increase with the gauge.

Resilient Tiles

In the case of homogeneous, unbacked tile floors, gauges exceeding 1/8" are seldom used except in commercial installations where maintenance and traffic conditions are extremely severe. In any flooring installation, of course, it is necessary to take into consideration factors other than gauge. In choosing a flooring material, the proper *composition* for the type of service it will undergo must be decided *first*. Then the gauge of that material is considered. From the point of view of durability, the thinner gauges of the chosen composition will meet most requirements where the amount of maintenance is expected to be reasonable. But if quietness and comfort are of major importance, thicker gauges should be chosen.

For locations where poor maintenance or severe traffic conditions are involved, the thickest available gauge in the correct flooring material should be chosen. There are some compositions of tile such as Linotile, in which only one "all-purpose" gauge is available. Here it is safe to assume that the nature of the tile makes it applicable over a broad range of conditions in the type of service for which it was designed.

Linoleum and Sheet Plastic Floors

Development of backing materials. Backings were originally used on resilient floors merely as a carrier to support the flooring materials during processing. Now they make important contributions to the flooring by adding even greater resilience and comfort. Recent developments include special felts such as Armstrong Armofelt. This backing material, saturated with resins, gives very superior performance.

The gauge of the resilient flooring material cannot be considered without reference to both the composition of the flooring material and its backing. Some of the newer resilient floors in their thinner gauges provide durability equal to or better than that supplied by thicker gauges of the more traditional materials. This is due to the superiority of their compositions as well as newly developed synthetic binders.

Selection of gauge. In choosing linoleum, Light and Standard gauges should be used only in areas of light service, or where initial cost dominates considerations of durability. Heavy gauge linoleum should be used for most commercial installations, since such floors are subjected to concentrated traffic.

The durability of the new plastic compositions permits plastic flooring materials to be manufactured in thinner gauges with serviceability equal to that of linoleum in heavier gauges. For example, the thinner gauges of Armstrong Corlon plastic flooring can be regarded as equal to Standard gauge linoleum.

The gauge of a resilient flooring material naturally affects its "comfort value." For a comparison of this quality, as it applies to various types of resilient floors, see page XI.

Table of suggested resilient floor gauges for commercial (including institutional), residential, and industrial installations

Material	Gauge	Wear Layer Thickness	Suggested Use
ASPHALT TILE			
Standard	3/16"	3/16"	Severe Commercial
Conductive (not for use in hospital operating rooms)	1/8"	1/8"	Residential, Commercial
	3/16"	3/16"	Heavy industrial for static control
	1/8"	1/8"	Industrial for static control
Flagstone	1/8"	1/8"	Residential, Commercial
CORK TILE	5/16"	5/16"	Severe Commercial
	3/16"	3/16"	Residential, Commercial
	1/8"	1/8"	Residential
LINOTILE	1/8"	1/8"	Residential, Commercial, Severe Commercial
RUBBER TILE	3/16"	3/16"	Commercial, Severe Commercial
	1/8"	1/8"	Residential, Commercial
CUSTOM CORK TILE	3/16"	3/16"	Residential, Commercial
CORLON (Plastic)			
Custom Corlon Tile	1/8"	1/8"	Residential, Severe Commercial
	3/32"	3/32"	Residential, Commercial
Granette	.090"	.050"	Residential, Light Commercial
Decoresq } Terrazzo } Moresq }	.070"	.030"	Residential, Light Commercial
EXCELRON			
Excelon, 1/8" Gauge	1/8"	1/8"	Residential, Commercial, Severe Commercial
Excelon, Service Gauge	1/16"	1/16"	Residential, Commercial
LINOLEUM			
Battleship, Heavy Gauge	1/8"	.090"	Residential, Commercial, Severe Commercial
Plain, Heavy Gauge	1/8"	.090"	Residential, Commercial, Severe Commercial
Standard Gauge	.090"	.050"	Residential, Light Commercial
Jaspé, Heavy Gauge	1/8"	.090"	Residential, Light Commercial
Standard Gauge	.090"	.050"	Residential, Light Commercial
Marbelle, Heavy Gauge	1/8"	.090"	Residential, Commercial, Severe Commercial
Standard Gauge	.090"	.050"	Residential, Light Commercial
Light Gauge	.070"	.030"	Light Residential
Textelle, Heavy Gauge	1/8"	.090"	Residential, Commercial, Severe Commercial
Decoray, Light Gauge	.070"	.030"	Light Residential
Raybelle, Standard Gauge	.090"	.050"	Residential, Light Commercial
Royelle, Standard Gauge	.090"	.050"	Residential, Light Commercial
Straight Line Inlaid, Standard Gauge	.090"	.050"	Residential, Light Commercial
Embossed Inlaid, Craftline and Spatter, Standard Gauge	.090"	.050"	Residential, Commercial

Confusion and misunderstanding are minimized with . . .

Clear specifications for resilient floors

The complexities of resilient flooring installation, labor, and material costs are understood in general by the architect. However, it is important that he be able to correctly classify the materials and work to be done so that all bidding contractors will base their estimates on the same standards. In many instances, the misunderstandings that occasionally arise on a project stem from the incomplete details of the specifications. The lack of proper details can have a serious effect on the contractor's labor and material costs. Because of the wide scope of the specification writer's work, it is impractical for him to become familiar with all such details. However, if he has a working knowledge of variations in cost of resilient flooring materials, labor, and subfloor preparation, he should have little trouble in writing clear and concise resilient flooring specifications.

Price Variations in Flooring Materials

Among the factors which govern resilient flooring material prices are:

- Type and Style of the Resilient Flooring
- Gauge or Thickness of the Material
- Color and Graining
- Standard or Special Sizes

Resilient flooring materials are manufactured in several types and gauges to meet various service requirements. In many cases, each type is made in a number of stylings to permit greater design freedom.

One of the items often omitted from resilient flooring specifications is the naming of the particular flooring style and color group. This part of the specification is a very important factor in figuring costs. For example, Armstrong Linoleum falls into three separate price groupings according to style and color, as explained on page VIII.

Armstrong Asphalt Tile prices vary according to color. The "A" or darkest colors are the lowest in cost and grade up in price to the "D" or lightest colors.

Armstrong Rubber Tile, Cork Tile, Custom Cork Tile, Custom Corlon Tile, Linotile, and Excelon Tile vary in product cost, but there is no price differential within the color line. (The price structure of resilient floorings is ex-

plained in greater detail in the section titled "Relative costs of resilient floors" on page VII.)

One of the clearest ways to specify resilient flooring materials is to indicate the manufacturer's name and color number. When this is not possible, or if a floor design cannot be selected in advance, it is important that a clear understanding be given of the percentage of each material to be used. For example,

" . . . 1/8" Asphalt tile design to be composed of color groups: B—25%, C—50%, D—25%, . . . " or,	" . . . Linoleum in rooms 110 and 112 to be 1/8" jaspé with 12" borders of 1/8" plain regular colors."
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Such a specification will give each flooring contractor a standard basis for figuring his bid.

Variations in Contractor's Installation Costs

The labor involved in laying a particular floor design is another big factor in figuring price. If the architect fails to give a clear idea of the complexity of the design, the contractor may base his bid on fewer installation man hours and underbid the job. In such cases, there is sure to be an expenditure of time and words—if not money—before the misunderstanding is settled.

To prevent such misunderstandings, it is recommended that the architect show detail drawings of at least one of the floor designs when they are too complex for adequate description in the specifications. A typical example of such a drawing is shown on page XX. Simplified specifications of materials, colors, gauges, and sizes shown on, or supplied with, the drawings will also be helpful.

Underlayment Requirements in Remodeling Jobs

On remodeling work it is always advisable to list all necessary repairs in the specifications, such as replacing badly worn boards, sanding floors, the use of hardboard underlayments such as Armstrong Temboard Underlayment or plywood—or the asphaltic or latex type of mastic underlayment, filling cracks in concrete, etc. Never use a blanket specification such as, ". . . the old subfloor shall be repaired to provide a suitable base for resilient flooring." Such specifications invariably invite the least expensive method of subfloor preparation, which is seldom in the best interest of the client. From the contractor's point of view, competition leaves him no choice but to bid on the

It is not necessary for the architect to specify how the flooring contractor should install the flooring materials. It is far safer and more exact to specify that the resilient flooring materials be “installed in accordance with the

SPECIAL NOTE: Since the Armstrong Line of floors is available to any legitimate flooring contractor, an outright specification for Armstrong materials will produce competitive bidding while also assuring the client of premium quality materials.

From specifications

Furnish and install 1/8" Armstrong Asphalt Tile and heavy gauge Armstrong Linoleum in the colors, patterns, sizes and designs shown on the drawings and in the areas listed in the schedule of finishes.

All products covered by these specifications are to be installed in accordance with the latest edition of Armstrong Installation Specifications by a qualified Armstrong flooring contractor whose bid shall include all the materials and labor required.

From detail drawings

Simple detail drawings of the floor design with the manufacturer's color numbers indicated eliminate the need for a full description of the materials to be used. From the drawings and general specifications, the bidding contractor can quickly see the work involved in the flooring job. Installation methods approved by the manufacturer of the flooring should be specified.

Abridged specifications for resilient flooring

THESE SPECIFICATIONS COVER INSTALLATIONS OF

Asphalt Tile—Greaseproof Asphalt Tile—Corlon—Custom Corlon Tile—Linotile—Rubber Tile—
Linoleum—Linoleum Tile—Cork Tile—Excelon Tile—Conductive
and Greaseproof Conductive Asphalt Tile

Linowall and Corkwall . . page XXIV

*Complete Unabridged Installation Specifications for any Armstrong Floor or Wall
Material may be had upon request from any Armstrong office.*

How to Use—In the following specifications, items have been grouped by trades. Essential matter is presented as prewritten specification clauses in Roman type. Matter in *italics* is explanatory or indicates where the architect must fill in dimensions, brand names, etc.

Caution—Armstrong Corlon, Linotile and Linoleum should not be installed on any floor in direct contact with the ground. Armstrong Rubber Tile, Custom Corlon Tile, and Cork Tile may be specified for grade-level installation when installed in accordance with Armstrong Installation Specifications. Armstrong Rubber Tile and Custom Corlon Tile may be installed below grade in accordance with Armstrong Installation Specifications. Armstrong Excelon, Asphalt Tile and Greaseproof Asphalt Tile are recommended for installation on subfloors on or below grade, as well as on suspended floors. Conductive asphalt tile may be installed over concrete subfloors in direct contact with the ground, on grade but not below grade, nor in hospital operating rooms.

BRIEF SPECIFICATION

Furnish and install Armstrong Resilient Floors in the types, gauges, colors, sizes, and designs as herein specified on areas listed below or where shown on drawings. (List areas here.) All products covered by these specifications are to be installed in accordance with the latest edition of Armstrong installation specifications by a qualified Armstrong flooring contractor whose bid shall include all the labor and materials required.

COMPLETE SPECIFICATION

SPECIFICATIONS FOR FLOORING CONTRACTOR

SCOPE

The General Conditions of the Contract are a part of these specifications.

1. Work Included

The contractor shall furnish all labor and materials required to complete all the resilient flooring and cove base work shown on the drawings, or herein specified, as follows:

- a. Linoleum, Corlon, Linotile, Asphalt Tile, Excelon Tile, Rubber Tile, Custom Corlon Tile and Cork Tile floors, Flash Type Cove Base and/or Top-Set Asphalt and/or Rubber Cove Base.

- (1) on the areas listed below, or
 - (2) where shown on drawings.

- b. Lining felt.

- c. Cleaning, waxing, and polishing of all work installed under this section of the specification.

- d. (number) samples 3" x 3" or larger, of each color and type of resilient floor and base.

- e. Shop drawings of designs of custom floors.

- f. Guarantee.

- g. Underlayment (*include when specifying hardboard, plywood, latex or asphalt mastic floor fill when any underlayment is to be installed by the flooring contractor*). *Do not specify asphaltic floor fill over areas where Rubber Tile or Custom Corlon Tile is being installed with Armstrong No. S-104 Chemical-Set Waterproof Cement.*

2. Work Excluded

(Items which could be considered as part of this section, but which are included in the specifications for other trades.)

- a. Carry resilient floors only to, but not under, the base of cabinets, cupboards, and other built-in furniture.
- b. Underlayment (*include when it is desired to have the installation of hardboard such as Armstrong Temboard®, Underlayment, or plywood as an underlayment under the carpentry contractor*).
- c. Heat and ventilation to maintain 70°F. while laying is being done during cold weather.

3. Linoleum

Linoleum shall be

- (1) Linoleum as manufactured by the Armstrong Cork Company, or
- (2) first-quality material and composed of an oxidized oleoresinous composition, pigments, and fillers and shall have a supporting backing. It shall be dense but resilient and highly resistant to abrasion.

3A. Plastic Flooring

Plastic floor covering shall be

- (1) Corlon (sheet-type) as manufactured by the Armstrong Cork Company, or
- (2) Custom Corlon Tile as manufactured by the Armstrong Cork Company, or
- (3) first-quality material composed of vinyl resins, alkaline resisting color pigments, and other plastic compounds, all thoroughly mixed to form a dimensionally stable and resilient flooring. It shall be dense, but resilient and highly resistant to abrasion. It shall be free from blisters, cracks, embedded foreign matter and other physical defects affecting its appearance and serviceability. Roll or sheet-type material shall have a supporting back of resin-saturated felt. Tile shall not have a supporting backing. Tile shall have a burl-type directional graining and shall be accurately cut with square edges. The tile shall be capable of withstanding a furniture load of 200 pounds per square inch without leaving a visible permanent mark after the load is removed.
- (4) Excelon Tile as manufactured by the Armstrong Cork Company, or
- (5) first-quality material, and composed of a thoroughly blended composition of vinyl plastic resins, asbestos fibers, alkali resisting pigments and fillers, formed under pressure while hot and cut to size. It shall be dimensionally stable, fire-retardant and thoroughly resistant to alkali, grease and oils. It shall have a smooth, tough wearing face, free from cracks, blisters, and other physical defects affecting its appearance or serviceability. Tile shall be uniform in thickness and accurately cut with square edges.

3B. Linotile

Tile shall be

- (1) Linotile as manufactured by the Armstrong Cork Company, or
- (2) first-quality material, 1/8" thick, and composed of

Flooring Specifications, Continued

oxidized linseed oil, resins, pigments, and fillers. It shall not have a supporting backing. It shall be dense but resilient, highly resistant to abrasion, and capable of withstanding a furniture load of 200 pounds per square inch without leaving a visible permanent mark after the load is removed. Tile shall be accurately cut, with square, true edges, and uniform in thickness. The colors shall run entirely through the tile.

3C. Asphalt Tile—Standard, Greaseproof, Flagstone, Conductive, Greaseproof Conductive.

Tile shall be

- (1) Asphalt tile as manufactured by the Armstrong Cork Company, or
- (2) first-quality material $\frac{1}{8}$ " or $\frac{3}{16}$ " thick and composed of a thoroughly blended composition of thermoplastic binder of the asphalt and/or resinous type, asbestos fibers, pigments, and fillers, formed under pressure while hot and cut to size. Tile shall be uniform in thickness and accurately cut, with square, true edges.

3D. Rubber Tile

Tile shall be

- (1) Rubber tile as manufactured by the Armstrong Cork Company, or
- (2) first-quality material, $\frac{1}{8}$ " or $\frac{3}{16}$ " thick, and shall be homogeneous throughout. It shall consist of a properly cured rubber compound free of objectionable odors, and shall be free from blisters, cracks, embedded foreign matter or other physical defects affecting its appearance or serviceability. The tile shall be capable of withstanding a furniture load of 200 pounds per sq. in. without leaving a visible permanent mark after the load is removed.

3E. Cork Tile

Tile shall be

- (1) Cork tile as manufactured by the Armstrong Cork Company, or
- (2) first-quality material, $\frac{1}{8}$ ", $\frac{3}{16}$ ", or $\frac{5}{16}$ " thick, and made from a selected grade of pure cork, homogeneous from face to back, free from any foreign fillers and thoroughly and evenly bonded with an added heat processed resinous binder. The tile shall be accurately cut with square edges and be uniform in thickness.

4. Colors, Patterns, and Sizes

a. (Always specify field and border color numbers to avoid confusion.)

- (1) field colors shall be, border colors and widths shall be, or
- (2) field and border colors and sizes shall be as shown on the Schedule of Finishes.

b. Feature strips shall be

- (1) inches wide and (color), or
- (2) as shown on the Schedule of Finishes.

5. Flash Type Cove Base

a. Base shall be

- (1) linoleum or sheet-type Corlon (*specify gauge and color*) with binding strip, end stops, corner pieces, and $\frac{1}{8}$ " wax fillet complete.

b. Nail binding strips, end stops, and corner pieces tight to the wall with cement coated flat head nails or drive screw nails. Install wax fillet strip with Armstrong S-128 Paste.

c. Base shall be (4 $\frac{1}{2}$ " or 6") high.

6. Top-Set Asphalt Cove Base

a. Base shall be

- (1) as manufactured by the Armstrong Cork Company, or
- (2) asphalt $\frac{1}{8}$ " thick with molded top-set cove.

b. Base shall be sufficiently flexible so that internal and external corners can be formed easily from 3- or 4-foot sections by heating and bending.

c. Base shall be in color and shall be (4" or 6") high.

7. Top-Set Rubber Cove Base

a. Base shall be

- (1) as manufactured by the Armstrong Cork Company, or

(2) rubber $\frac{1}{8}$ " thick with molded top-set cove, preformed end stops, internal and external corners.

b. Base shall be in color and shall be (4" or 6") high.

8. Adhesives

a. For Corlon or Linoleum

- (1) Armstrong S-128 Paste, or
- (2) Armstrong S-214 Waterproof Cement
- (3) As approved by the manufacturer of the linoleum.

b. For Linotile, Rubber Tile or Custom Corlon Tile

- (1) Armstrong S-130 Resilient Tile Paste, or
- (2) Armstrong No. S-128 Paste, or
- (3) Armstrong No. S-214 Waterproof Cement, or
- (4) Armstrong S-225 On-Grade Cement, or
- (5) Armstrong S-104 Chemical-Set Cement where Armstrong Rubber Tile or Custom Corlon Tile is being installed on grade level. (*Do not use where rubber tile or Custom Corlon Tile is being installed over asphaltic floor fill.*), or
- (6) Armstrong No. S-104 Chemical-Set Cement (where Rubber Tile or Custom Corlon Tile is being installed below grade) or
- (7) as approved by the manufacturer of the tile floors.

c. For Cork Tile

- (1) Armstrong S-130 Resilient Tile Paste, or
- (2) Armstrong S-214 Waterproof Cement, or
- (3) Armstrong S-225 On-Grade Cement.

d. For Asphalt Tile, Flagstone Asphalt Tile, Greaseproof, Conductive Asphalt Tile or $\frac{1}{8}$ " Excelon Tile

- (1) Tile shall be installed with
 - (a) Armstrong No. S-160 Emulsion, or
 - (b) Armstrong No. S-90 Cement
- (2) Asphalt Tile and Asphalt Cove Base shall be installed with adhesives approved by the manufacturer of the asphalt tile and the cove base.

e. For Service Gauge Excelon Tile

- Tile shall be installed with
- (a) Armstrong S-128 Paste, or
 - (b) Armstrong S-130 Resilient Tile Paste, or
 - (c) Armstrong S-90 Cement, or
 - (d) Armstrong S-214 Waterproof Cement, or
 - (e) Armstrong S-225 On-Grade Cement.

f. For Cove Base

- (1) Top-Set Asphalt Cove Base shall be installed with Armstrong S-245 Top-Set Asphalt Cove Base Cement, or
- (2) Top-Set Rubber Cove Base shall be installed with Armstrong S-214 Waterproof Cement.

g. Lining felt shall be installed with Armstrong No. S-128 Paste, or Armstrong S-130 Resilient Tile Paste, or Armstrong S-214 Waterproof Cement.

9. Lining Felt

- (1) Armstrong No. S-149 Heavy Duty Felt, or
- (2) Armstrong No. S-150 Semi-Saturated Asphalt Rag Felt, or
- (3) as approved by the Armstrong Cork Company.

10. Samples

a. Samples must be approved by the architect before work is started.

b. Samples must be labeled, stating color, gauge, and location in which they are to be used, and the manufacturer's name.

INSTALLATION

Note: For methods of installing resilient floors over different types of subflooring—see Table, page XXX.

11. Subfloor

- a. Lay the resilient floor on a subfloor of (*state whether concrete, Armstrong Temboard Underlayment, plywood, or other*) which this contractor shall inspect before starting work.

Flooring Specifications, Continued

- b. Notify the architect in writing of any defects in the subfloor. Do not proceed until such defects have been corrected. Starting of work shall imply acceptance by this contractor of the subfloor.
- 12. Preparation**
- The subfloor will be delivered to this contractor broom clean and free of paint, varnish, wax, grease, or oil. It shall be thoroughly dry.
 - Fill all cracks, expansion joints, etc., in concrete subfloors with Armstrong No. S-190 Crack Filler.
 - Prime wood subfloors that have been sanded with one brush coat of Armstrong S-140 Floor and Wall Size.
- 13. Laying**
- Lay the resilient floor so as to be true, level, and even with tight joints, and in accordance with manufacturer's installation instructions.
 - On wood floors, lay sheet-type resilient flooring at right angles to floor boards. When for economy or other reason a seam parallels the floor boards, paste Armstrong S-96 Fabric Seam Protector directly under the flooring seam.
 - On wood floors, lay all resilient tiles (except asphalt and $\frac{1}{8}$ " Excelon Tile) diagonally to the direction of the floor boards.
 - Fit borders accurately.
 - Fit to and around all permanent fixtures.
 - Roll in two directions with 100-pound or heavier roller. (Not required for asphalt tile.)
 - Clean off surplus adhesive according to manufacturer's instructions.
 - Match patterned sheet-type flooring at all seams.
- 14. Other Subfloors**
- For subfloors not covered in these specifications, such as metal, magnesite, ceramic tile, etc., write direct to Armstrong Cork Company, Lancaster, Pa., for recommendations.
- 15. Installing Flash Type Cove Base** (*select clauses below to suit conditions*)
- For concrete floors not plugged, set $\frac{5}{8}$ " diameter wood plugs, at least 1" long, flush with the concrete floor for nailing end stops and corner pieces of base.
 - For concrete walls not having wood grounds, set $\frac{5}{8}$ " diameter wood plugs at least 1" long, in the walls at proper height, not over 9" on center and flush with the concrete for nailing binding strip, end stops, and corner pieces of base.
 - Install binding strip, end stops, and corner pieces with cement-coated flat head nails or drive screws, securing pieces flush and tight to wall and floor.
 - Install $\frac{1}{8}$ " wax fillet strip at intersection of floor and wall with S-128 Paste.
 - Fit base sheet-type flooring to binding strip, stops, etc., and to floor. Paste with S-128 Paste, or S-214 Waterproof Cement. Miter corners at floor so that field or border is flush with flashed flooring.
- 16. Installing Top-Set Asphalt Cove Base**
- Firmly cement the asphalt cove base to wall with Armstrong S-245 Top-Set Cove Base Cement.
 - Form internal and external corners from three- or four-foot sections of base in accordance with manufacturer's instructions. Accurately scribe base to trim and plinth.
- 17. Installing Top-Set Rubber Cove Base**
- Firmly cement rubber cove base to wall with Armstrong No. S-214 Waterproof Cement.
 - Form internal and external corners using preformed rubber cove base corners in accordance with manufacturer's instructions.
- 18. Stair Treads**
- Install resilient flooring on all stair treads, including top treads of all floors, landings, and platforms (*specify locations*).
 - Treads must finish flush with metal nosings, or
 - provide and install a continuous nosing (*specify kind*), with the top edge set to finish flush with the surface of the resilient floor. Secure rigidly in place by (*specify method*).

19. Cleaning and Waxing

Clean all flooring thoroughly in accordance with manufacturer's maintenance recommendations.

20. Guarantee

This contractor shall guarantee that all work executed under this section of the specification will be free from defect in material and workmanship, provided any such defect is brought to the attention of the contractor in writing within one year after completion of the work. Upon such notice, the contractor shall, at his own expense, make the necessary repairs or replacements of the defective work in question. The owner shall, however, be responsible for the removal and replacement of all fixtures and equipment attached to the surface on which the work will be done.

ITEMS FOR CARPENTRY SECTION

1. General

Wood subfloors shall be brought to a smooth, even surface a sufficient distance below the finished floor level to allow for the installation of the resilient flooring.

2. Single Wood Floors

(*Never install resilient flooring over single wood subfloors.*)

a. (*For single wood floors of tongue-and-groove boards.*) Cover the floor with a layer of hardboard (such as Armstrong Temboard Underlayment) or 3-ply $\frac{3}{8}$ " or heavier plywood grade "BD" or better, firmly nailed with cement or rosin-coated ring-grooved nails or staple equipment, spaced not more than 6" apart in both directions and at all edges. The pieces shall be not larger than 4' x 4' and shall be laid ashlar fashion $\frac{1}{16}$ " apart, with continuous seam at right angles to the floorboards. (*In the case of hardboard, include: "with the wire side up."*)

b. (*For single wood floors not tongue-and-grooved.*) Cover the floor with $\frac{25}{32}$ " kiln-dried tongue-and-groove flooring, not over 3" face, laid at an angle of 45° to the under layer. Cut end joints square, drive tight, and blind-nail with 8d cut flooring nails.

3. Double Wood Floors

Install double wood floors (*list areas*). Under layer shall be $\frac{1}{8}$ " tongue-and-groove boards not over 8" wide. Lay boards at right angles to the joists, with the end joints square, staggered, and over bearings only. All boards shall be face-nailed at each end and at every bearing with two 8d nails. Finish flooring shall be as specified in 2 above. (*If the finish flooring is omitted, cover the under layer as specified in 2 (a), or with floor fill using Armstrong S-170 Flormastic.*)

4. Repairing Old Wood Floors

Existing floors throughout (*specify areas*) shall be repaired as follows: (*Select clauses from (1) to (4) if existing floors are extremely uneven and are not being leveled with the floor fill.*)

- Fill all cracks wider than $\frac{1}{8}$ " and all holes larger than $\frac{1}{4}$ " with plastic wood or snugly fitted pieces of wood.
- Replace defective boards with new material.
- Renail boards where necessary to make secure.
- Same as 2(a) Single Wood Floors.

5. Baseboards and Plinths

Extend all wood baseboards and/or plinths to the subfloor. Where flash type cove base is specified, install wood nailing strip in the wall as specified and flush with finished walls.

6. Scraping and Sanding

Scrape and/or sand all uneven areas in the wood flooring to make suitable for application of the resilient flooring.

ITEMS FOR MASONRY SECTION

- The surface of all concrete floors (*specify areas*) as well as the treads, landings, and platforms of stairs (*specify location*) shall be steel troweled to a smooth, even, level, hard surface, free from expansion joints, scale, or foreign deposits.
- Concrete subfloors shall be brought to a smooth, even surface a sufficient distance below the finished floor level to allow for the installation of the resilient floor.

ITEMS FOR PLASTERING SECTION

- (*Where Cove Base of either type is used.*) All plastering on walls (*specify areas*) shall be made smooth, even, and free from imperfections and shall be carried to the subfloor.

Wall Specifications

BRIEF SPECIFICATIONS

Furnish and install Armstrong Corkwall and/or Linowall in the colors, patterns, and designs as herein specified, on the areas listed below, or where shown on the accompanying drawings. (List areas here.) All products covered by these specifications are to be installed in accordance with the latest edition of Armstrong installation specifications by a qualified Armstrong contractor whose bid shall include all the labor and materials required.

Note: Do not install Armstrong Corkwall or Linowall in shower stalls or built-in bathtub recesses.

A. SPECIFICATIONS FOR THE RESILIENT WALL COVERING CONTRACTOR SCOPE

1. Work Included

The contractor shall furnish all labor and materials required to complete the Wall Covering work as specified.

2. Work Excluded

- Plaster patching and repairs. (Include only when it is desired to have the work done by another contractor.)
- Heat maintained at 70°F. and room properly ventilated.

MATERIALS

3. Wall Covering

- Corkwall shall be:
 - Corkwall as manufactured by Armstrong Cork Company, or
 - first-quality material, $\frac{1}{8}$ " thick and made from a selected grade of pure cork, homogeneous from face to back, free from any foreign fillers and thoroughly and evenly bonded with an added heat-processed clear or colored, resinous binder. The tile shall be accurately cut with square, true edges and be uniform in thickness.
- Linowall (a registered trade-mark for a linoleum-type wall covering) shall be:
 - Linowall as manufactured by Armstrong Cork Company, or
 - first-quality material, .050" thick made of an oleoresinous composition, pigments and fillers and calendered to a supporting backing.

Color and trim shall be (always specify materials by number to avoid confusion).

4. Corner Fillets shall be Armstrong No. S-15 $\frac{5}{8}$ " Linowall Fillet Strip.

5. Adhesives

- Adhesives shall be:
- Corkwall
Armstrong No. S-245 Cove Base Cement
 - Linowall
 - Armstrong No. S-127 (water resistant) Cement, or
 - Armstrong No. S-214 Waterproof Cement (for seams and edges exposed to excessive surface moisture).

6. Samples

- Labeled samples must be approved by the architect.

INSTALLATION

7. Installation

Install Corkwall and/or Linowall in accordance with manufacturer's installation specifications over (state whether plaster, plasterboard, or other) which the contractor shall inspect before starting the work. Notify the architect in writing of any defects in the wall. Do not proceed until such defects have been corrected.

8. Preparation of Surfaces

- New plaster must be thoroughly dry.
- Remove any existing wall covering, paint, etc., from walls.
- Size plaster, where dusty or porous, and the cardboard face of plasterboard with Armstrong No. S-140 Floor and Wall Size.

9. Linoleum Cap Strip

Install linoleum cap strip above Wall Covering wainscot.

10. Metal Trim

Apply metal trim at wainscot top.

11. Guarantee

The contractor shall guarantee that all work executed under

this section of the specification will be free from defect in materials or workmanship, provided that any such defect is brought to the attention of the contractor in writing within one year after completion of the work. Upon such notice, the contractor shall, at his own expense, make the necessary repairs or replacements of the defective work in question. The owners shall, however, be responsible for the removal and replacement of all fixtures and equipment which might interfere with the work to be done.

ITEMS FOR THE CARPENTRY SECTION

1. Wallboard

- Wallboard shall be inch thick plasterboard, of gypsum faced with smooth cardboard and shall have recessed edges for the application of tape over joints.
- Wallboard shall be nailed to studs and cross-headers. Install headers 2 feet to 3 feet on centers between studs. Nails shall be set and holes filled. Sand smooth.
- Size all patches and dusty and porous plaster with Armstrong No. S-140 Wall Size.
- If plaster is in too poor a condition to repair, remove and replace with either new plaster or approved wallboard.
- Remove any existing wall covering, paint, etc., from walls.

NOTE: Do not apply Corkwall or Linowall to wallboard which has been used to repair old or cracked plaster walls.

ITEMS FOR THE PLASTERING SECTION

1. General

Walls shall be brought to a smooth, even surface free of trowel marks or other defects.

2. New Plaster

- In rooms where Corkwall and/or Linowall is to be installed, finish walls with a smooth, well-bonded white coat.
- Walls shall be free of "hot" spots which might tend to "burn" adhesive or wall covering.
- Round all inside and outside corners to a radius of $\frac{5}{8}$ ".

3. Old Plaster

Patch all cracks and holes and sand to a smooth, level finish when dry and hard.

NOTE: If plaster cannot be repaired, remove and replace with new plaster.

Sink and Cabinet Tops

Armstrong Linoleum is excellent as a smooth working surface for table and cabinet tops or other work surfaces.

Armstrong Corlon is highly recommended for sink and counter tops since it is not easily harmed by hot soapy water, cleaning detergents, or other normal household reagents.

On sinks or other areas where water is splashed, the success of the installation depends almost entirely upon making the seams and edges tight and waterproof. Manufacturers of metal and plastic parts used in sink-top construction generally supply complete installation specifications and drawings. The names of such firms will be furnished upon request.

Where Corlon or linoleum is to be flashed up the wall, follow the same installation specifications as for Armstrong Flash Type Cove Base.

In general, the use of Armstrong No. S-290 Waterproof Sink Rim Cement or equivalent and Armstrong Lining Felt are desirable.

Preparing old subfloors for resilient flooring

With the continuing importance of modernization projects, resilient floors offer the architect the simplest means of utilizing the previous floor construction. However, no resilient floor is better than the subfloor over which it is installed, and satisfactory results depend to a very great degree on correct preparatory work.

The installation of resilient floors in an old structure usually involves the conversion of what was once a wearing floor into a subfloor. Two main conditions must be met before such a floor forms a satisfactory base for a resilient finish floor. First, it is necessary to have a relatively smooth-surfaced subfloor, free from serious irregularities which would mar the appearance of the finish floor. Second, since nearly all resilient floorings are applied with adhesives, the old floor must be so prepared as to provide a satisfactory bonding surface for the adhesive.

Wood floors. The preparation of old wood floors for the installation of resilient flooring depends on the type of construction:

1. Single wood floors, not tongue-and-groove. These should be covered with $\frac{25}{32}$ " flooring or $\frac{5}{8}$ " or heavier plywood. (For details of both wood and mastic type underlayments see pp. XXVII and XXVIII.)
2. Single wood floors, tongue-and-groove. Use hardboard, such as Armstrong Temboard Underlayment or $\frac{3}{8}$ " plywood, grade B-D or better.
3. Double wood floors. If boards are 3" or more, proceed as (2), above. If less than 3", renail loose boards and replace defective or badly worn boards with new material. Fill cracks and holes with plastic wood or snugly fitting wood pieces. Remove surface irregularities, such as cupping, by sanding.

Wood floors, which are too uneven to be sanded smooth, should be covered either with a mastic-type floor fill made with Armstrong No. S-170 Flormastic, or with hardboard, or with $\frac{3}{8}$ " or heavier plywood.

Old wood floors to which a surface treatment, such as paint or oil, has previously been applied present a special problem. Such treatments tend to prevent the penetration of the adhesive into the wood and deprive it of bonding strength. All traces of oil or paint should be removed by sanding, scraping, or, if necessary, scrubbing with chemical solvents. The subfloor should be dry and free of all traces of solvents before the installation of flooring.

On the other hand, when the pores of any wood floor have been opened by sanding, too much penetration of moisture from the adhesive causes cupping of the floor boards. Immediately after sanding, therefore, a sealing compound such as Armstrong Floor and Wall Size should be applied and allowed to dry before spreading adhesive.

Concrete floors. The problem of securing proper adhesion to concrete subfloors usually arises from dusty, chalky, or flaky concrete surfaces and previous treatments with oils or other solutions. This can usually be overcome by (1) thorough sweeping with a wire brush to remove all loose particles, and (2) removal of oils and/or other surfacing solutions such as paint, varnish, or wax. These can be removed by sanding, paint and varnish remover, blowtorch, acetylene paint burner, or a strong solution of tri-sodium phosphate and water followed by a sealing treatment. When asphalt tile or Excelon Tile is to be installed, the sealer should be Armstrong No. S-80 Asphalt Primer. For all other resilient flooring materials on suspended concrete floors, apply a thin coat of Armstrong S-140 Floor and Wall Size. All cracks, minor holes, and crevices should be filled with Armstrong Crack Filler or a filler of equal quality before any resilient flooring installation is started. If concrete floors are too badly damaged to be repaired by crack fillers, the entire floor may be resurfaced with a fill made from Armstrong Flormastic, S-105 Underlayment Cement, or a concrete topping. Concrete topping and new concrete floors must be fully cured before installing resilient floors.

Special conditions. The above comments cover the most common conditions encountered in dealing with subfloors of wood and concrete. Other types of subfloors such as metal, terrazzo, and magnesite require special treatment which is dependent on individual circumstances. In such cases Armstrong will be glad to offer specific assistance.

Preparing old wood subfloors

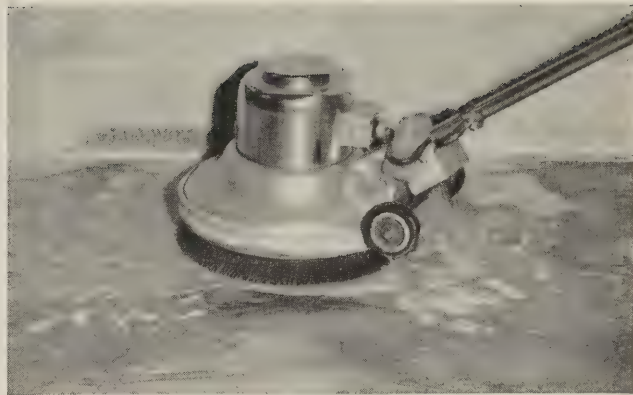
Type of Subfloor		Hardboard	Plywood*
Single wood floor	Tongue-and-Groove	✓	$\frac{3}{8}$ " or heavier
	Not Tongue-and-Groove	Do not use	$\frac{5}{8}$ " or heavier
Double wood floor	Strips 3" or more	✓	$\frac{3}{8}$ " or heavier
	Strips less than 3"	Renail or replace loose boards. Remove surface irregularities.	

Floors too uneven to be sanded smooth: S-170 Flormastic, or hardboard, or $\frac{3}{8}$ " or heavier plywood.

* See page XXVIII for recommended types.



To insure a proper bond for the adhesive, all paint must be removed. Because of the speed with which paint can be removed from large areas, the acetylene paint burner is often preferred for this type of work. However, machine sanding and chemical paint removers also do the job quickly and well.



Since adhesives will not adhere to oil- or grease-coated floors, it is necessary that these floors be cleaned with a strong grease-cutting solution of tri-sodium phosphate or alkali-type cleaner. Floors should be rinsed well to remove excess chemicals which might destroy the binding qualities of the flooring adhesive.



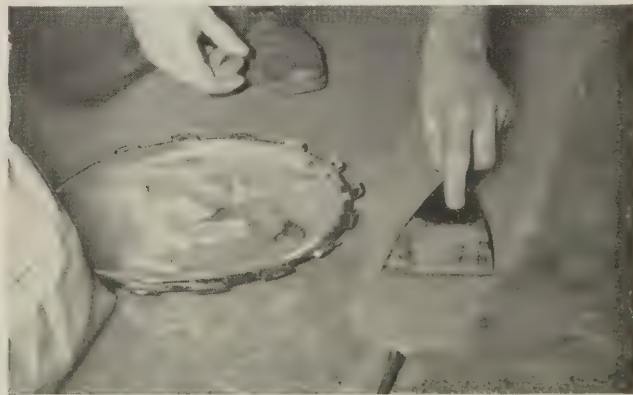
Surface defects in the old floor often damage or otherwise mar the finished resilient floor. This can be prevented by carefully nailing loose boards and sanding or planing warped areas to floor level. All badly damaged floor boards should be replaced. Sanded areas should be treated with a sealing compound.



An underlayment, consisting of four-by-four-foot sheets of hardboard or plywood, is advised for uneven subfloor areas which cannot readily be corrected by sanding. When laid over a tongue-and-groove floor, this underlayment provides a sound and economical base for all types of resilient flooring.



Another method of resurfacing damaged wood and concrete subfloors is the use of a cold mastic floor fill. It can be laid directly over the old floor. Wood screeds and a straightedge may be used to maintain the thickness necessary for leveling. Cold mastic fills will not adhere to subfloors treated with oil.



Although resilient flooring adhesives will fill minor cracks and crevices in concrete subfloors, it is best that all holes, cracks, and crevices be filled with a reliable cement crack filler before installation is started. It is important that all concrete subfloors be allowed adequate drying time before installing flooring.

Satisfactory resilient flooring installations often depend on . . .

Selecting the right type of underlayment

Resilient flooring materials all tend to mold themselves somewhat to irregularities of the surface over which they are installed. This tendency, in addition to the more or less severe seasonal expansion and contraction of subfloors, makes it extremely important that architects and builders be familiar with the right underlayment for the particular conditions and that they insist upon its correct installation. Otherwise, the resilient finish floor may lose some of its attractive appearance or even split.

There are two main types of subfloor to be considered—concrete (or other monolithic floors, such as terrazzo, ceramic tile, or steel) and wood—and two main types of underlayment—board and mastic. If the subfloor is concrete, and an underlayment is needed, a mastic-type compound should be used. Wooden subfloors call for either board or mastic-type underlayments, depending on their type and condition. Mastic-type underlayments are generally used to *level* wood floors.

Mastic-type underlayments. Mastic underlayments are of several kinds. The best use a binder such as asphalt or latex in the mix. Those which consist simply of a powdered mixture such as cement, gypsum, and sand, to which only water is added, all too often break down under traffic when applied in thin coats or featheredges. For some installations, either type will be satisfactory, but the latex-type underlayment, such as Armstrong No. S-105 Chemical-Set Underlayment Cement, is best where a thin film is required. For best results, the maximum thickness

is up to, but not more than, $\frac{1}{4}$ ". It is easily troweled and can be featheredged very satisfactorily. It can be installed under most normal conditions, including installation over radiant-heated subfloors. However, latex underlayment should not be used when asphalt adhesives will be used to install the resilient floor.

The recommended asphaltic-type underlayment is made with Armstrong Flormastic, an asphaltic compound, mixed with Lumnite cement and aggregates, is both inexpensive and satisfactory under any normal conditions, including installations over radiant-heated subfloors. Except for occasional spots to be featheredged, the fill should be at least $\frac{3}{8}$ " in thickness. However, Flormastic should not be used when the resilient flooring is to be installed with No. S-104 Cement.

It is important to remember that the subfloor must be free from surface treatments such as paint, oil, and varnish before a mastic-type underlayment is applied.

Board-type underlayments. The basic choice here is between hardboard and plywood. Most architects have found it satisfactory to specify hardboard on remodeling work and plywood on new construction. The main reason for this is that the thinner hardboard type of underlayment avoids excessive building up of old subfloors. In new construction, on the other hand, it is often desirable to build up subfloors, and plywood serves this additional purpose well.

Over wood subfloors, galvanized chicken wire or expanded metal lath should be nailed to the floor to reinforce asphaltic-type underlayments. The wire netting allows the wood floor to expand and contract without damaging the floor fill.

A latex underlayment such as Armstrong S-105 Chemical-Set Underlayment Cement may be troweled to a thin "feather-edge" in leveling worn or damaged areas of concrete subfloors. This often eliminates the need for complete resurfacing.



Suitability of plywood (DFPA) underlayments



Hardboard. The best type of hardboard underlayment is Temboard Underlayment, as recommended in Armstrong Specifications. This hardboard has been in use for many years as an underlayment for resilient floors and has proved satisfactory. Tempered hardboards should never be specified as underlayments, because they tend to buckle when subjected to moisture.

Plywood. This material has been used satisfactorily as an underlayment for many years. The general term "plywood," however, should always be qualified in underlayment specifications. Only eight of the twelve types of plywood available are suitable as underlayment. Among

interior plywoods, grades such as AA, AB, AD, and BD are recommended, with AD preferred for cost and performance. Grades CD and BB should not be used.

Among exterior plywoods, grades AA, AB, AC, and BC are recommended, with AC preferred for both cost and performance. CC and BB should not be used. A $\frac{3}{8}$ " or greater thickness should be used in all cases. (See chart.) As a general rule, interior plywoods are used because of lower cost, although exterior plywoods are recommended wherever excessive water spillage occurs, such as around soda fountains, at the entrances of public buildings, and on counter tops.

Joint spacing of approximately $\frac{1}{16}$ " is left between sheets of hardboard underlayment to allow for slight expansion and contraction with varying moisture conditions. The hardboard sheets should be laid with joints staggered, ashlar fashion.

Hardboard or plywood underlayment should be firmly nailed to the underfloor with coated or ring-grooved nails. Nails must be placed not over six inches on center in all directions and at all edges and driven flush with the underlayment.



Adhesives for resilient flooring

The life and serviceability of any resilient flooring installation depend greatly upon the proper application of the correct adhesive which will meet its specific installation requirements. Frequently, the selection of the proper adhesive is as important as the selection of the floor itself. To bond properly, the adhesive must hold the flooring material to the subfloor by surface attachment. This surface attachment, or bonding strength, must be great enough to prevent the separation of the flooring material from the subfloor under stresses slightly greater than those encountered in normal use. At the same time, the bond must not be so strong that it will be too difficult to remove the resilient flooring at a later date if necessary.

Factors to Be Considered

The type of subfloor, its condition, and the kind of resilient flooring material to be installed are important factors in the selection of the adhesive. Below-grade subfloors, for example, may require a different type of adhesive than suspended subfloors, and asphalt tile must be installed with a different adhesive than linoleum. The adhesive selected must also bond the resilient floor securely to the subfloor without chemical or physical damage to the flooring material. It should also be easy to handle and apply. It should develop and retain the correct "tack" or gripping power throughout the desired working period. The adhesive must have correct viscosity. If it is too thin, it will penetrate too deeply into the ma-

The bonding strength of any adhesive is determined by its cohesive strength as well as its ability to adhere to surfaces of both materials being bonded. The test strip below illustrates desired adhesion between the subfloor and the flooring material surfaces and also shows integral cohesion strength.



terial and the bonding power will break down due to lack of sufficient adhesive at the surface. For this reason, resilient flooring adhesives should never be thinned except as specified by the manufacturer.

Because the various types of resilient floors available are designed to meet specific flooring requirements, it is necessary that the adhesive used in their installation meet the same requirements. As a guide in the proper selection of adhesives, the Armstrong Research and Development Center has prepared the chart shown on page XXX as well as a brief description of each adhesive.

Armstrong No. S-128 Paste is an all-purpose adhesive developed for the installation of linoleum, Linotile, Corlon, rubber tile, Service Gauge Excelon Tile, the various linoleum and Corlon tiles, and lining felt over suspended subfloors. It has a sulphite liquor base and is water soluble.

Armstrong No. S-130 Resilient Tile Paste was formulated especially to simplify and speed the installation of Linotile, rubber tile, cork tile, linoleum tile, Corlon tile, and lining felt over suspended subfloors. It develops a quick tack and keeps tiles from sliding or moving while mechanics work over finished areas.

Armstrong No. S-225 On-Grade Cement is an alcohol base cement which is both alkali- and moisture-resistant. It is designed for installation of rubber tile, cork tile, and

To insure adhesives of uniform quality, the Armstrong Research Laboratories continually test the bonding strength of adhesives before and after "setting." Below, is the "stripping test," one of many used. It measures the bonding strength between the subfloor and the flooring material after setting.



Table of recommended adhesives for the installation of Armstrong resilient floors

Type of Resilient Floor	Wood Hardboard & Plywood	Concrete Suspended	Concrete On Grade	Concrete Below Grade	Ceramic Tile Terrazzo or Marble Suspended	Terrazzo or Marble On Grade	Steel	Magnesite	Floor Fill	
									Asphalt Type	Latex Type
Linoleum Corlon	S-128	S-128	Don't Install	Don't Install	Rough S-128 Smooth S-214	Don't Install	S-214	Special Recommendation by Armstrong	S-128 or S-214	S-128
Linotile	S-130 or S-128	S-130 or S-128	Don't Install	Don't Install	Rough S-130 or S-128 Smooth S-214 or S-104	Don't Install	S-104 or S-214	Special Recommendation by Armstrong	S-214 or S-225	S-130 or S-128
Rubber Tile and Custom Corlon Tile	S-130 or S-128	S-130 or S-128	S-104 or S-225	S-104	Rough S-130 or S-128 Smooth S-104 S-225 or S-214	S-104 or S-225	S-214 S-104 or S-225	Special Recommendation by Armstrong	S-214 or S-225	S-130 S-128, S-225, or S-104
Cork Tile	S-130 or S-214	S-130 or S-214	*S-225	Don't Install	S-214 or S-225	*S-225	S-214	Special Recommendation by Armstrong	S-214 or S-225	S-130 or S-214 or S-225
Linoleum Tile	S-130 or S-128	S-130 or S-128	Don't Install	Don't Install	Rough S-130 or S-128 Smooth S-214	Don't Install	S-214	Special Recommendation by Armstrong	S-214	S-130 or S-128
†Asphalt Tile and ½" Excelon Tile	S-80 Primer S-160	S-160 or S-90	S-160 or S-90	S-160 or S-90	S-160 or S-90	S-160 or S-90	S-160 or S-90	S-80 Primer S-160 or S-90	S-160	Don't Install
Conductive Asphalt Tile	S-80 Primer S-160	S-160 or S-90	S-160 or S-90	Don't Install	S-160 or S-90	S-160 or S-90	S-160 or S-90	S-80 Primer S-160 or S-90	S-160	Don't Install
Service Gauge Excelon	S-128 S-130 or S-90	S-128 S-130 or S-90	S-90	S-90	S-90	S-90	S-90	S-80 Primer and S-90	S-214 or S-225	S-128 or S-130
Lining Felt	<i>Must</i> for bur-lap back linoleum and most resilient tiles. <i>Optional</i> for felt back sheet linoleum, Corlon, asphalt and Excelon Tile**	Optional for all floors	Don't Install	Don't Install	Optional for all floors Install Rough S-128 or S-130 Smooth S-214	Don't Install	Optional for all floors Install with S-214	Special Recommendation by Armstrong	Optional for all floors Install with S-128 or S-130 or S-214	Optional for all floors Install with S-128 or S-130
Install with No. S-128 or S-130 unless otherwise noted										

†Asphalt tile and Excelon tile can also be specified over asphaltic floor fill on and below grade subfloors. Dusty and porous concrete subfloors should be primed with Armstrong No. S-80 Primer prior to the installation of asphalt tile or Excelon tile.

‡No. S-90 to be used only over hardboard and plywood without lining felt.

*Cork tile may be specified for certain grade-level installations where the floor surface of the concrete slab is at least 12" above grade level and the

ground slope is away from the building. The subfloor should be well cured and visibly dry. The cork tile shall be installed with No. S-225 On-Grade Cement. Rubber tile and Custom Corlon tile shall be installed with No. S-225 On-Grade Cement.

**Asphalt tile and Excelon tile shall be installed over lining felt on wood subfloors.

Custom Corlon Tile over on-grade floors. It should not be used below grade.

Armstrong No. S-80 Primer is used to minimize moisture as well as to seal porous and dusty concrete subfloors for asphalt tile and ½" Excelon Tile installation. It also prepares the subfloor for the proper adhesive selected for the installation of asphalt tile or ½" Excelon Tile. It is a very thin "cut-back" asphalt.

Armstrong No. S-90 Asphalt Cement is recommended for below-grade installation of asphalt tile or Excelon Tile, especially if the subfloor is subject to or shows signs of dampness. It is a cut-back asphalt-type cement and is especially alkali and moisture resistant.

Armstrong No. S-160 Emulsion is an all-purpose adhesive for the installation of asphalt tile and Armstrong ½" Excelon Tile over suspended, grade-level, and below-grade subfloors. It is a water emulsion of asphalt and is resistant to both alkali and moisture.

Armstrong No. S-104 Chemical-Set Waterproof Cement is a special-purpose adhesive developed for the installa-

tion of Armstrong Rubber Tile and Custom Corlon Tile over below-grade concrete subfloors. It is also used to install certain floors to steel, terrazzo, ceramic tile, and other non-porous surfaces, and where excessive surface moisture is unavoidable. This adhesive consists of two elements, one a liquid, the other a powder, which are mixed on the job and must be installed within a specified time.

Special Problems

Frequently, unusual conditions such as extra-high alkalinity in concrete or magnesite subfloors will necessitate special adhesive recommendations. In such instances, Armstrong will be glad to furnish additional information which will be of help in determining the proper adhesive.

In order for architects to be sure that the proper adhesive is being used, it is suggested that they specify the adhesive or specify that the flooring contractor use the adhesive recommended by the manufacturer of the resilient flooring being installed.

Important factors to watch, when . . .

Inspecting resilient floor installations

The architect can save his own valuable time, and at the same time insure the quality of contractor's workmanship, if inspections of resilient floors are carried out during routine inspections of the construction. Flooring installations usually call for no more than four inspections. First is the inspection of the subfloor prior to installation of the finish flooring. Then the materials should be inspected, followed by an inspection of the resilient floor during installation. Finally, the finished floor should be inspected.

The following information, and the accompanying chart—which outlines the special factors requiring attention for various types of subfloors and finish floors—should be helpful to the architect in timing his inspections.

Inspection of Subfloors

The condition of the subfloor has an important bearing on the appearance as well as the life and serviceability of a resilient floor. Subfloor inspection can be made easily and quickly prior to the installation of the finish floor.

New concrete subfloors. It is important that all new concrete subfloors be thoroughly dry, clean, and cured to a hard, non-powdery finish. Dampness or a powdery surface will prevent effective bonding of the adhesive to the subfloor. Concrete subfloors should also be free of expansion marks, trowel marks, and other imperfections. A smooth subfloor is important, since irregularities will show on the surface of the resilient flooring material and high points will receive excessive wear.

Old concrete subfloors. Inspect for proper filling of holes, cracks, and the leveling of uneven areas. The slab should be thoroughly dry and free from oil, paint, varnish, dirt, and other foreign matter. (For methods of preparing old concrete subfloors for resilient flooring, see page XXV.)

New wood subfloors. Where resilient floors are to be installed over new wood subfloors, the architect should check his construction specifications against the manufacturer's recommendations as to construction with single, double, tongue and groove, or hardboard or plywood underlayments. (See page XXVII for recommended underlayments.) Major changes from the manufacturer's recommendations may call for individual recommendations for the proper installation of the resilient floor selected. Armstrong representatives are always willing to work with architects on such special recommendations for Armstrong resilient floors, without obligation.

Old wood subfloors. All loose boards should be re-

nailed and all badly worn or damaged boards replaced. Uneven areas should be sanded or properly filled with a floor fill. Sanded wood floors should be sealed to prevent warping due to absorption of moisture from adhesives. All previous finishes, oil, dirt, and foreign matter should be completely removed. (This subject is treated in more complete detail on page XXV.)

Inspection of materials. Before the flooring contractor starts the job, all resilient flooring materials to be used should be inspected for quality, color, and type as specified in the architect's flooring contract. Particular attention should be given to the types of lining felt and adhesives to be used, especially if the contract agreement or the architectural specifications permit the use of underlayments and adhesives other than those recommended by the manufacturer.

Inspection of the Installation

Poor workmanship, such as careless cutting and fitting, is best corrected early in the job—and inspection of the resilient floor during installation can avoid costly repair and correction later.

One of the most important operations in the installation of linoleum, plastic sheet flooring, and the majority of resilient tiles is the "rolling" process. This should insure a smooth, even bond to the underlayment by getting rid of all air bubbles, ripples, and uneven areas. The time required for proper rolling should not be shortened in order to speed the completion of the job, as this operation is vital to a satisfactory installation.

In areas where marbleized or patterned linoleum or Corlon plastic sheet flooring are being used, particular attention should be paid to seam matching.

In resilient tile installations, all edges of the tile should be tight to the floor, and joint lines should be even.

Inspection of Special Installations

The preceding paragraphs cover inspection details ordinarily encountered in checking resilient floor installations over wood and concrete subfloors. The inspection of resilient floors over other types of subfloors—such as magnesite and metal—or of floors employing special techniques—such as the use of metal strips in conjunction with resilient floors for decorative effect—is governed by individual circumstances. In such cases, architects should not hesitate to call on Armstrong for assistance.

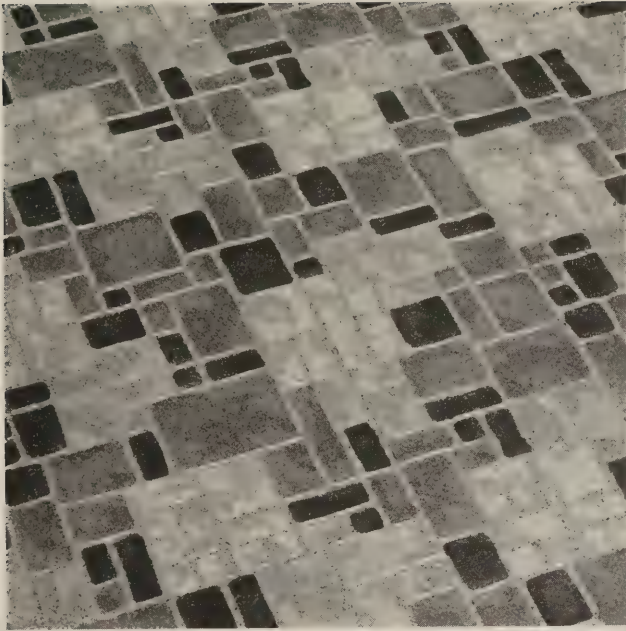
Factors important in resilient floor inspection

PRE-INSTALLATION INSPECTION

Type of Subfloor	Inspect for	Floor Should Be
NEW CONCRETE	Proper curing and drying. Moisture or dampness.	Free of expansion and trowel marks, grease, dirt, or foreign matter. Free of imperfections. Hard, dry, and non-powdery.
NEW WOOD	Compliance with flooring specifications of maker as to construction in single, double, tongue and groove, and hardboard underlayment.	Smooth, dry, and free from grease, dirt, or foreign matter.
OLD CONCRETE TERRAZZO CERAMIC TILE	Soundness, dryness, and necessary repair.	Level, free from cracks, holes, paint, varnish, and other finish. Also free from oil, dirt, and other foreign matter.
OLD WOOD	Renailing, replacement of worn or damaged boards, necessary filling of holes and cracks.	Sanded smooth, free of paint, varnish, oil, or other foreign matter.

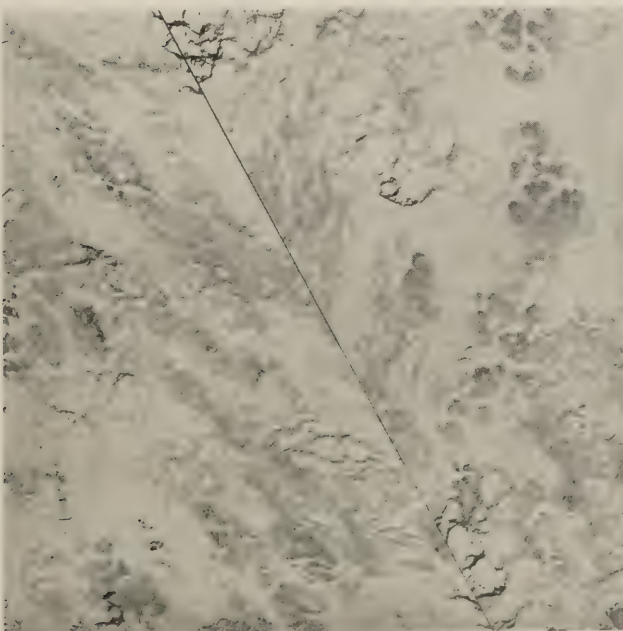
INSTALLATION INSPECTION

Type of Resilient Floor	Inspect During Installation for	Check Finished Floor for
LINOLEUM CORLON	Proper installation of lining felt. Proper matching of pattern at seams. Neat cutting and fitting, around pipes and fixtures. Thorough rolling.	Over-all appearance. Air bubbles caused by poor rolling. Open seams. Proper cleaning and waxing.
ASPHALT TILE EXCELON TILE RUBBER TILE CUSTOM CORLON TILE LINOTILE LINOLEUM TILE	Symmetrical joint lines. Open joints. Poor tile laying such as adhesive between tile joints. Thorough rolling of rubber tile, Custom Corlon Tile, linoleum tile, and Linotile. Neat cutting and fitting.	Over-all appearance. Raised joints. Open joints. Loose tile. Proper cleaning and waxing.
CORK TILE	Symmetrical joint lines. Proper finishing where unbeveled and unfinished cork tile are used. Thorough rolling.	Over-all appearance. Smooth surface. Open joints. Proper cleaning and special waxing.



An example of perfect workmanship in seam cutting and pattern alignment. Note how the over-all effectiveness of the floor design is greatly increased by proper matching of the repeat unit of the design. The floor in the photograph at left has a joint between two pieces of linoleum running diagonally from top to bottom through the center of the picture. The joint is barely noticeable because of excellent workmanship.

All joints or seam lines should be symmetrical. Uneven lines, such as illustrated at right, mar the appearance of both linoleum and resilient tile floors. This condition is more likely to occur in resilient tile installations. Armstrong resilient tiles are die-cut to a perfect square which eliminates this condition provided the flooring mechanic has squared the room before starting the installation and has laid the tiles carefully.



For the proper appearance of Marbelle, Royelle, Decoray, Jaspé, and Raybelle linoleum installations, the strips should be "reversed" or turned end for end. This gives a continuous flow to the graining and eliminates the optical illusion of "raised seams," shown here. The same principle applies to Textelle and Spatter linoleum to assure proper pattern appearance.

Maintenance problems must be considered

Often, the maintenance of resilient floors is considered to be outside the architect's province. There are, however, two very important reasons why familiarity with maintenance problems may materially affect your choice of resilient floors. First, architects are rarely consulted by owners on proper maintenance—and the owner goes ahead with his own methods. If these damage the appearance or shorten the life of the floor, the architect may be thought guilty of improper selection of flooring materials. Secondly, it is important to consider the amount of wear to which the floor area in question will be subjected. Excessive, uneconomical maintenance may result if an unsuitable resilient floor is installed. In his own interest, the architect should therefore be familiar with the amount of maintenance required by each type of floor before specifying one for a particular location.

Apart from their handsome looks, one of the main reasons for the great popularity of resilient floors for both residential and commercial floor installations is their ease of cleaning. They never need costly refinishing. Occasional washing and waxing, along with regular sweeping, are all the maintenance they normally require. However, resilient floors vary in the amount of care they need, and it follows that floors among the easiest to maintain should be specified for areas, such as entrance ways, where frequent cleaning cannot be avoided.

Since the maintenance characteristics of the different types of resilient floors overlap, and ease of maintenance is also affected by the color and pattern of the flooring selected, the following ranking is intended as an approximate guide to the amount of maintenance normally required by the various Armstrong Floors.

Best Linotile
 Excelon Tile
 Custom Corlon Tile

Linotile is considered the easiest to maintain of all the Armstrong Floors. Its exceptionally dense, tough composition makes it an excellent choice for heavy-traffic areas. Washing and waxing are usually required infrequently. Both Excelon Tile and Custom Corlon Tile are vinyl plastic floors with exceptional advantages from the standpoint of maintenance. Both provide unusual resistance to the harsh cleaners which are all too often used in spite of manufacturers' warnings. In order to retain the appearance that a lustrous finish gives them, and to provide the added protection that waxing affords, Armstrong has always encouraged and specified occasional applications of a high-quality wax, after washing, as a necessary part

of the proper care of plastic floors of all kinds.

Excellent Corlon
 Linoleum

Linoleum perhaps best typifies the years of popularity which resilient flooring materials have enjoyed for their ease and economy of maintenance. Regular sweeping and occasional washing and waxing are all that are required to keep linoleum in good condition. Armstrong Corlon, a sheet-type plastic flooring, offers the additional advantage of excellent resistance to common household reagents.

Good Rubber Tile
 Asphalt Tile

The smooth plate finish of rubber tile requires slightly more frequent maintenance than the floors described above if it is desired to retain the high gloss which adds so much to its beauty. Rubber tile also benefits from occasional buffing with No. 00 steel wool. This keeps the rubber in prime condition and helps preserve the finish. For its low cost, asphalt tile provides a floor that is remarkably economical to maintain. Careful cleaning and periodic waxing, especially in the first months after installation, will help assure easy maintenance.

Fair Cork Tile
 Custom Cork Tile

Cork tile is not ordinarily specified for heavy traffic areas and should not be installed where it will be subjected directly to tracked-in dirt. In areas of less severe traffic, cork tile is readily maintained by daily sweeping and occasional washing and waxing. In cases of excessive soiling, machine scrubbing or sanding and refinishing may be necessary.

The following recommendations for resilient floor care have been outlined by the Armstrong Research and Development Center. They are the result of continuing research over a period of many years on all types of resilient floors. In essence, they show that simplicity is the best technique.

Sweeping. Dirt tends to slip off easily from the smooth, lustrous surface of any resilient floor. Daily sweeping with a soft broom or dry mop will keep this type of flooring clean for long periods. Oil mops or oil-type sweeping compounds are not recommended.

Washing. "More floors are washed away than worn away," says an old adage in the flooring industry. Unless they are subjected to unusual amounts of dirt, resilient floors should be washed infrequently. For all types, Arm-

strong All-Purpose Liquid Cleaner is recommended. This preparation is manufactured especially for resilient floors. New resilient floors should not be washed until the adhesive is thoroughly set—a period of at least four or five days for all resilient floors.

Waxing. As soon as a resilient floor has been allowed to dry after washing, it should be waxed. Most people have a tendency to use too much wax—a practice as expensive as it is inefficient. A thick film of wax forms a crust on top, leaving a soft, gummy mass underneath. Dirt penetrates the crust and lodges in the soft wax, making the floor appear gray and dirty. It is much better to apply two thin coats than one thick coat.

Paste waxes, which may contain oil, grease, or solvents such as naphtha or turpentine, should never be used on resilient flooring. The ideal wax for all resilient floors is a water-emulsion type such as Armstrong Linogloss Wax, which dries in less than 20 minutes to a hard, colorless finish that is lustrous but not shiny. Linogloss Wax is made especially for resilient floors.

Stain removal. The adjoining chart shows suggested methods of removing stains from all types of Armstrong Resilient Floors. It does not cover all types of blemishes, and the methods outlined may not remove all stains. However, they have proved to be the best and safest way to remove the most frequently encountered stains. Armstrong will always be happy to advise on any particular stain removal problem for which these methods do not prove fully effective.

Protection. An element in the care of resilient floors which is often overlooked, but adds greatly to their life and beauty, is the use of furniture rests. The function of a furniture rest is simply to extend the area over which the weight of furniture loads is distributed, and thus prevent indentation. The following table shows the recommended types of rests for various furniture weights.

Type of stain

Type of floor

Linoleum Linotile Corlon	Asphalt Tile Excelon Tile	Rubber Tile Custom Corlon	Cork Tile
--------------------------------	------------------------------------	------------------------------------	--------------

Alcohol

2 1 2 2

Acids
Alkalis

Burns

Drain Cleaners

Ink

Iodine

Lye

Mercurochrome

Metal

Nail Polish

3 3 3 3

Chewing Gum

Paint

Varnish

Tar

4 4 4 4

Dry Cleaners

Fruit Juices

Grease

Shoe Polish

1 3 3 1

Rubber Heel
Marks

3-5 3 3 3-5

Methods of removal

1. Wash with Armstrong Liquid Cleaner, rinse, wax.
2. Rub with No. 0 dry steel wool, rinse, and wax.
3. Rub with No. 0 steel wool dipped in Armstrong Liquid Cleaner, rinse, and wax.
4. Remove with putty knife, rub with No. 0 steel wool dipped in Armstrong Liquid Cleaner, rinse, and wax.
5. Rub lightly with cloth dipped in paste wax. Buff.

Recommendations for the selection of Armstrong Furniture Rests

size of rest or cup required (specify by number)

Weight of fully loaded furniture	Corlon and Linoleum	Linotile	Excelon, Asphalt Tile	Custom Corlon, Rubber Tile	Cork Tile
Up to 50 Lbs. per leg	NT-10 CT-100 CFT-300 CFT-301	NT-10 CT-100 CFT-300 CFT-301	NT-20 CT-200 CFT-400 CFT-401	NT-10 CT-100 CFT-300 CFT-301	NT-20 CT-200 CFT-400 CFT-401
50-100 Lbs. per leg	NT-20 CT-200 NDC-6 CFT-400 CFT-401	NT-10 CT-100 NDC-6 CFT-300 CFT-301	NT-50 CT-500 NDC-7	NT-10 CT-100 NDC-6 CFT-300 CFT-301	NT-35 CT-350 NDC-6
100-150 Lbs. per leg	NT-20 CT-200 NDC-6 CFT-400 CFT-401	NT-10 CT-100 NDC-6 CFT-300 CFT-301	NDC-225	NT-10 CT-100 NDC-6 CFT-300 CFT-301	NT-50 CT-500 NDC-7

size of rest or cup required (specify by number)

Weight of fully loaded furniture	Corlon and Linoleum	Linotile	Excelon, Asphalt Tile	Custom Corlon, Rubber Tile	Cork Tile
150-200 Lbs. per leg	NT-35 CT-350 NDC-6	NT-10 CT-100 NDC-6 CFT-300 CFT-301	NDC-325	NT-10 CT-100 NDC-6 CFT-300 CFT-301	NT-50 CT-500 NDC-225
200-250 Lbs. per leg	NT-35 CT-350 NDC-6	NT-20 CT-200 NDC-6 CFT-400 CFT-401	NDC-325	NT-20 CT-200 NDC-6 CFT-400 CFT-401	NDC-225
250-300 Lbs. per leg	NT-50 CT-500 NDC-7 NDC-125	NT-20 CT-200 NDC-7 NDC-125 CFT-400 CFT-401	NDC-325	NT-20 CT-200 NDC-7 NDC-125 CFT-400 CFT-401	NDC-325



CFT
Chrome
Furniture
Type



NT
Nail
Type



CT
Cotter
Type



NDC
Cup
Type

Armstrong
FLOORS AND WALLS

SECTION TWO

1955 Patterns
and Designs

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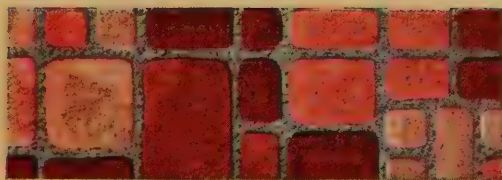
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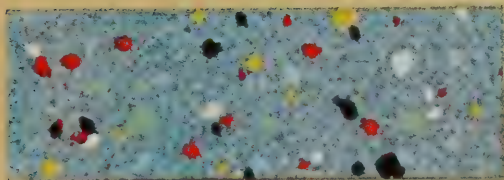
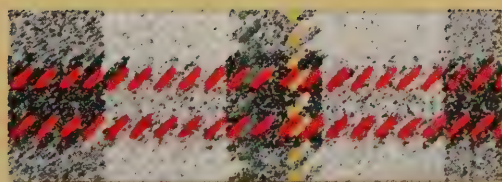
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Color Values

For accurate color matching, it is recommended that actual samples of material be used. Because of color printing limitations, we cannot guarantee exact duplication of color values shown in this book with those of the actual goods.



Armstrong *Linoleum*



ARMSTRONG LINOLEUM..

Today's decorating trends call for color, design, and texture—in fabrics, furnishings, walls, and floors. Armstrong Linoleum, because of its range of styles and colors, is widely recommended by architects, builders, and decorators for every room in the house and for all types of commercial interiors. Armstrong Linoleum meets today's needs for practical floors, too. Its smooth surface and greaseproof qualities simplify housekeeping and maintenance. Its resilience makes it quiet and comfortable underfoot. Backed by a forty-six-year history of quality and dependability, Armstrong Linoleum has never offered greater flooring values than in 1955.

For beauty

No other flooring material offers such a wide choice of colors, designs, and textured effects. Armstrong Linoleum for 1955 is available in one hundred and fifty-two patterns.

For every style of decoration

Armstrong Linoleum stylings range from the long-popular Plain, Jaspé, and Marbelle patterns to the smart Plaids and Tweeds of Craftline Inlaid and the Old World Tile and Flagstone effects in Embossed Inlaid styles.

For easy maintenance

The extra smooth surface of Armstrong Linoleum cleans easily with a broom or damp mop. Even grease and oil won't mar its beauty. Because it comes in big rolls, six feet wide and up to ninety feet long, Armstrong Linoleum Floors can be installed with minimum seams and joints.

For long wear

Three thicknesses of Armstrong Linoleum are made to meet various service requirements. Heavy Gauge (1/8") is recommended for commercial, institutional and other floor areas subjected to severe wear. Standard Gauge (3/32") is the choice for most residential and light commercial floors. Light Gauge (3/64") is primarily used where initial cost is of greatest importance.

For value

On all counts—appearance, service, and cost—Armstrong Linoleum is an outstanding value. It can be used on all subfloors except on- or below-grade concrete where alkaline moisture is a problem. In addition to its availability in rolls two yards wide, Armstrong Royelle, Raybelle, and Decoray Linoleum is also made in 9" x 9" tiles.



the modern fashion in floors



The modern fashion in floors wi



IN NEW CONSTRUCTION, especially where open-planning is featured, Armstrong Linoleum contributes to the look of spaciousness, unites the areas decoratively. Practical for kitchens because it's so easy to keep clean, this floor also adds style and color to any room.

add distinction to any interior



IN REMODELING, floors of Armstrong Linoleum meet the need for materials that add decorative color, simplify design, and require little care. Because it's a floor, not just a floor covering, Armstrong Linoleum provides a rich, colorful background for rugs.

These 11 different classes of 152 choices of styles and colors

Styling and methods of manufacture are the main differences between the various types of Armstrong Linoleum. Service and cost also are factors that add to the variety. All types of Armstrong Linoleum are inlaid with colors extending through the wearing surface to the backing. Backing materials vary according to different types and gauges. The Heavy Gauge of Plain, Jaspé, Marbelle, and Textelle patterns have burlap backing. Embossed, Spatter, Craftline, Straight Line Inlaid, and Standard Gauge Raybelle have exclusive Armofelt, an extra flexible, non-staining, fresh fiber felt backing. Royelle, Standard Gauge Jaspé, Standard Gauge Plain, Standard and Light Gauge Marbelle, and Decoray Linoleum all have asphalt saturated felt backing.



PLAIN A striking all-over floor, but frequently used as Linostrips or borders with other types.



DECORAY Smart, new economy flooring, made in 9" tiles as well as in rolls. Light Gauge only.



ROYELLE Bold sweeps of color characterize this modern floor styling. Made in rolls and 9" tiles.



STRAIGHT LINE INLAID Geometric and tile designs inlaid under pressure for sheet flooring.



SPATTER An Armstrong exclusive molded styling. Favored for traditional and modern décor.

Armstrong Linoleum provide just as they come from the roll



JASPE An outstanding example of design simplicity. Striations help to conceal dust and dirt.



RAYBELLE Distinctive "brush-stroke" graining with bold contrasts. Made in roll and tile form.



MARBELLE This distinctive non-directional marbleization is popular for all-over floor stylings.



TEXTELLE A smart, new styling for commercial and heavy duty floors. Heavy ($\frac{1}{8}$ ") Gauge only.



CRAFTLINE An exclusive series of molded styles featuring handsome, new textured flooring effects.



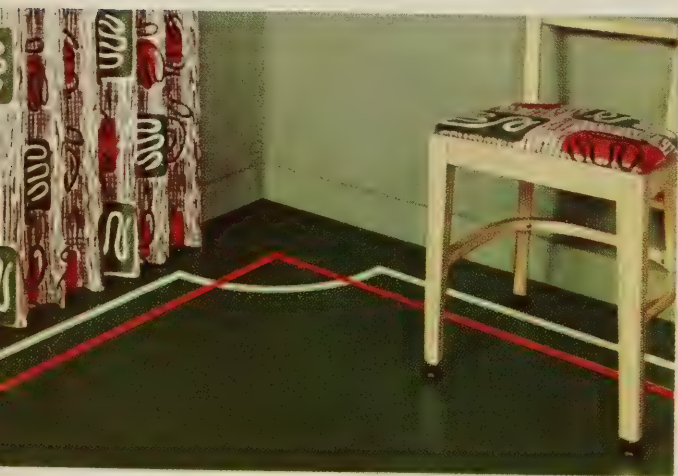
EMBOSSED A wide variety of textured effects with the charming richness of "third dimension."

Simple, inexpensive extras add

There's almost no limit to the smart custom effects that can be created in floors of Armstrong Linoleum. Through the combination of two or more colors or types of linoleum, the use of borders, Linostrips, and special cutting, virtually any design or effect can be achieved in this floor. Even when cost is an important consideration, a great variety of things can be done with Armstrong Linoleum to add decorative interest and individuality to this floor. The illustrations on these two pages show some of these effects. They require little extra cost but add considerable style and distinction to a room. The color combinations shown here can be varied in many ways with equally effective results, and a review of these handsome color schemes will suggest many others.



A narrow Linostrip in contrasting color can be used effectively to outline the room or a rug area.



More elaborate use of Linostrips heightens decorative contrast and style. Smart with plain colors.



Flash type cove base in field pattern makes room appear larger, eliminates dust-catching corners.



Contrasting border and flash cove base is popular. Border can be either plain or marbled.



Linostrips combined with flash type cove base permit color variations to accent the field color.

Decorative beauty and charm



Wide Linosets or bands of linoleum can easily be formed into straight, curved, or scroll insets.



Smart border treatments are almost limitless in design, permit individual floors at modest cost.



Custom floors can be kept moderate in cost with careful planning to eliminate waste. Designs like these are extremely attractive, yet all that's required is the interchanging of units that are cut from two contrasting colors.

Commercial interiors gain character



Colorful floors of Armstrong Linoleum can play an important part in creating distinctive interiors for shops, offices, and other types of business places. These floors can add sales-appeal to displays of merchandise, aid in establishing a distinctive atmosphere, even help to build employees' morale.



Besides making commercial interiors colorful and attractive, Armstrong Linoleum Floors have numerous other practical advantages. They keep maintenance costs low because the smooth surface is easy to clean. The resilience of Armstrong Linoleum makes it quiet and comfortable underfoot.

with floors of Armstrong Linoleum



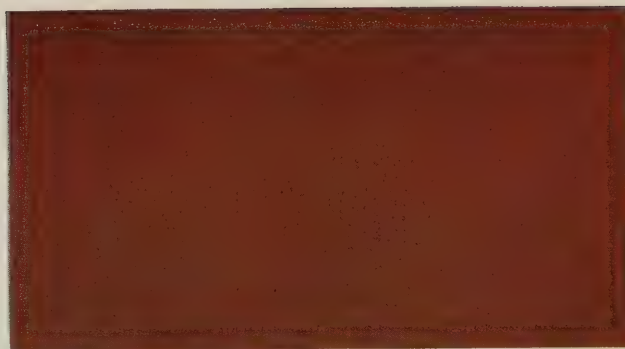
Custom floor styling is easy and inexpensive with Armstrong Linoleum. Trade-marks, monograms—any features that add extra distinction to a store are readily achieved in this flooring. Traffic guides, departmental identification, and other sales aiding devices can turn this floor into a silent salesman.



An atmosphere of smartness, refinement, and dignity can be enhanced with floors of Armstrong Linoleum. It's a tough, durable floor that will stand up under hard usage without expensive refinishing. The rich beauty of Armstrong Linoleum can be restored simply by occasional mopping and waxing.

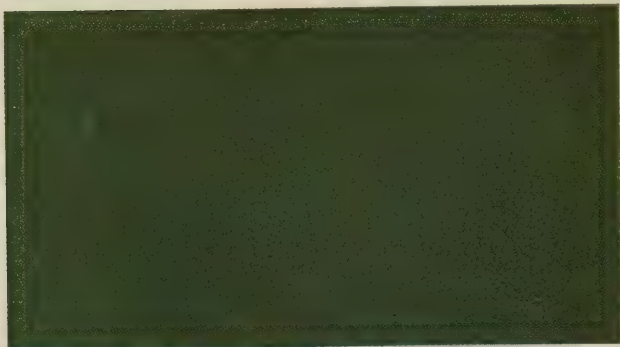
LINOSTRIPS AND BORDER MATERIAL

One-inch wide Linostrips are made in all Plain Linoleum patterns. Border material in 6", 9", and 12" widths and 20 to 33½ yards long is available in Plain Black No. 27, Chocolate No. 46, and No. 021 Black Marbelle. In addition, border material in any color or gauge of Plain, Jaspé, Raybelle, Decoray, Royelle, Marbelle, and Spatter Linoleum can be furnished to order in special widths ranging from 3" to 3'0" wide and in any length up to 30'0".



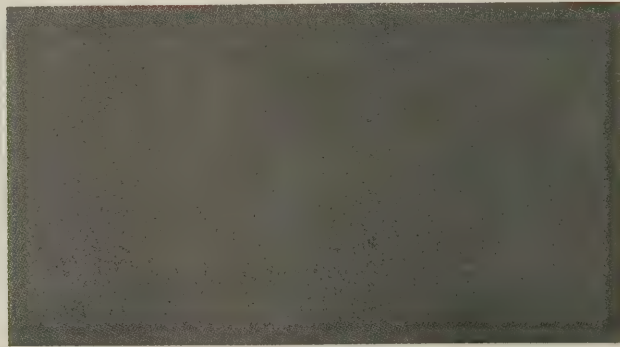
Brown No. 20

* Heavy (1/8") and Standard Gauge



Evergreen No. 21

* Heavy (1/8") and Standard Gauge



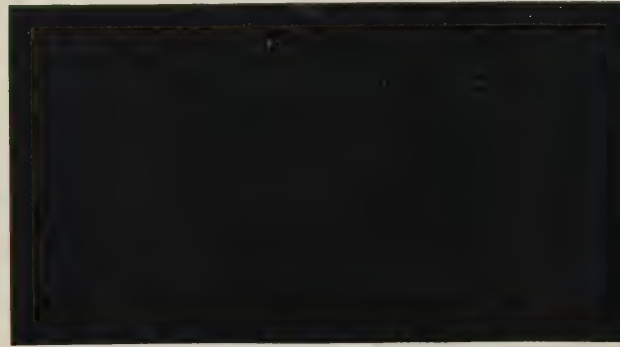
Dark Gray No. 22

* Heavy (1/8") and Standard Gauge



Terra Cotta No. 25

* Heavy (1/8") and Standard Gauge



Black No. 27

* Heavy (1/8") and Standard Gauge

Armstrong

PLAIN LINOLEUM

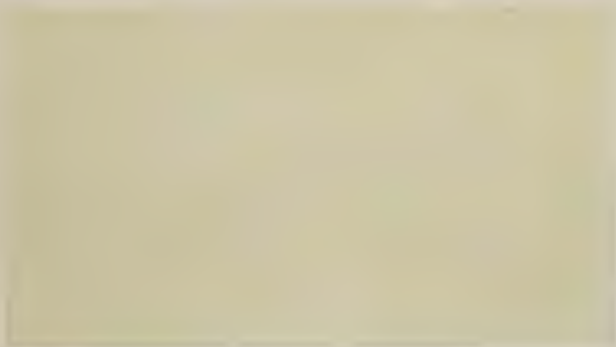
2 yards wide



Chocolate No. 46

* Heavy (1/8") and Standard Gauge

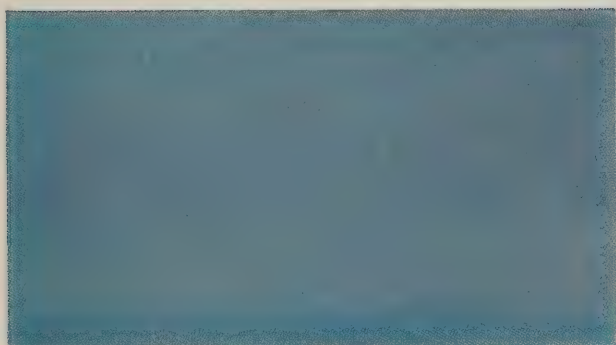
* In Heavy (1/8") Gauge the six Regular Colors on this page are often referred to as "Battleship Linoleum." Regular Colors are lower in price than Special Colors, which are shown on page 17.



White No. 23
Heavy (1/8") and Standard Gauge



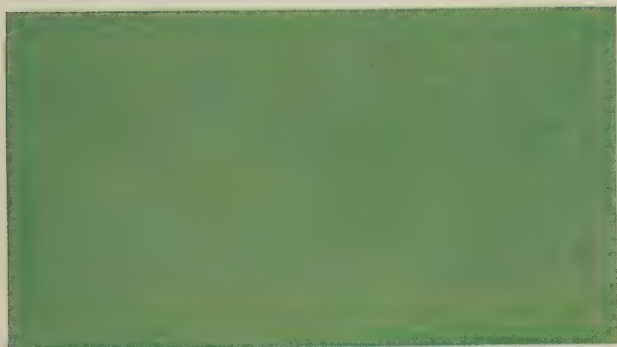
Pearl Gray No. 24
Heavy (1/8") and Standard Gauge



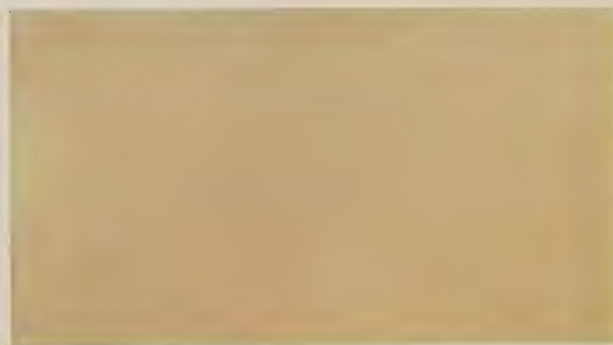
Cerulean Blue No. 34
Heavy (1/8") and Standard Gauge



Chinese Red No. 39
Heavy (1/8") and Standard Gauge



Jade No. 42
Heavy (1/8") and Standard Gauge



Fawn No. 45
Heavy (1/8") and Standard Gauge



Canary Yellow No. 48
Heavy (1/8") and Standard Gauge



Coral No. 49
Standard Gauge Only



Apple Green No. 1
Heavy (1/8") and Standard Gauge

Approximately 1/3 actual size

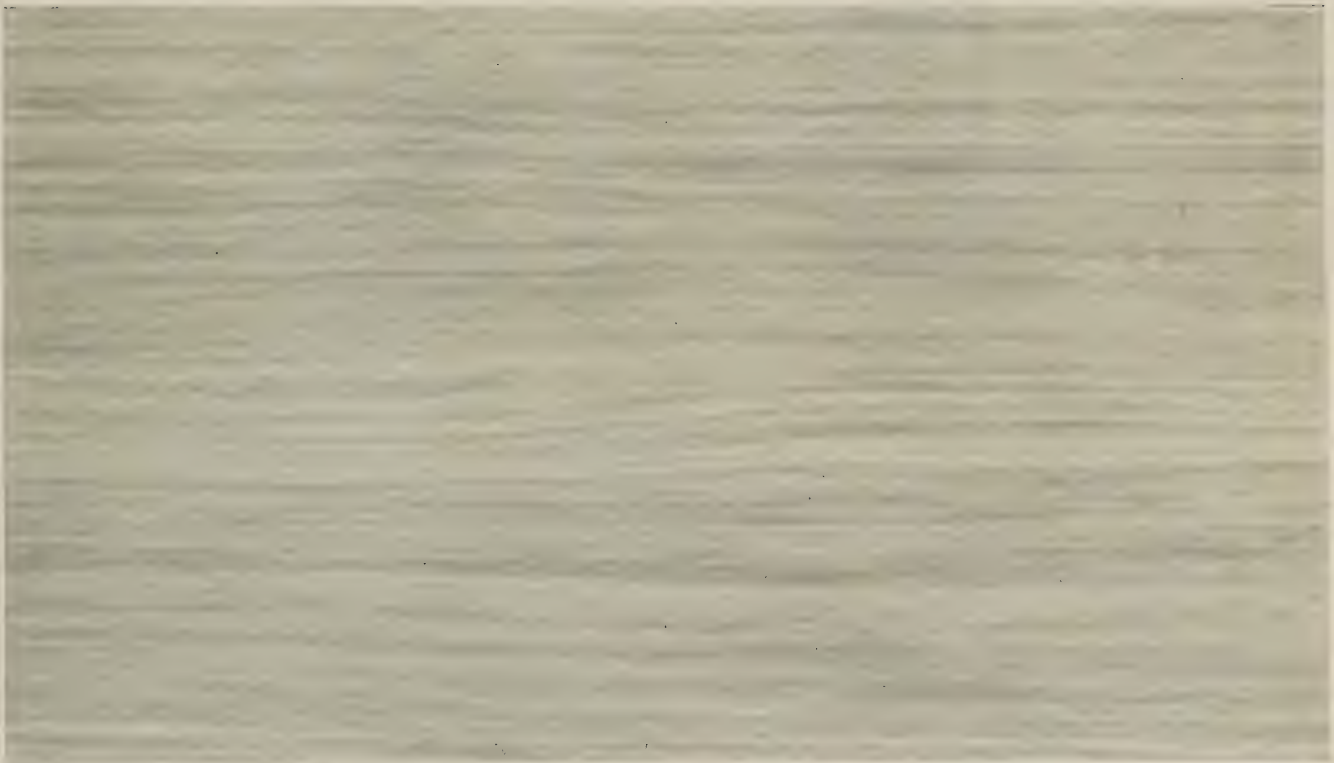


Light Taupe No. 4
Heavy (1/8") and Standard Gauge

Approximately 1/3 actual size

Armstrong
JASPE LINOLEUM

2 yards wide



Approximately 1/3 actual size

Platinum Gray No. 5
Heavy (1/8") and Standard Gauge



Approximately 1/3 actual size

Tan No. 9
Heavy (1/8") and Standard Gauge

Armstrong
JASPE LINOLEUM

2 yards wide



Driftwood Gray No. 13
Heavy (1/8") Gauge Only

Approximately 1/3 actual size



Sunset No. 15
Standard Gauge Only

Approximately 1/3 actual size

Armstrong
JASPE LINOLEUM

2 yards wide



Approximately 1/3 actual size

Malay Brown No. 16
Heavy (1/8") Gauge Only



Approximately 1/3 actual size

Hunter Green No. 19
Heavy (1/8") Gauge Only

Armstrong
JASPÉ LINOLEUM

2 yards wide

Armstrong

DESK TOP LINOLEUM

Armstrong Desk Top Linoleum is made for use on desks, tables, counters, and other places where a smooth, attractive, wear-resistant surface is needed. Its satin-smooth finish is lacquer-treated for easy maintenance. Armstrong Desk Top Linoleum is made in five colors—three plain patterns and two jaspé stylings. The pastel jaspé colorings were especially developed to combat eye fatigue. They lessen the light contrast between the desk top and the paper work lying on it, and thus greatly reduce eyestrain. Armstrong Desk Top Linoleum is manufactured .080" thick and 72" wide.



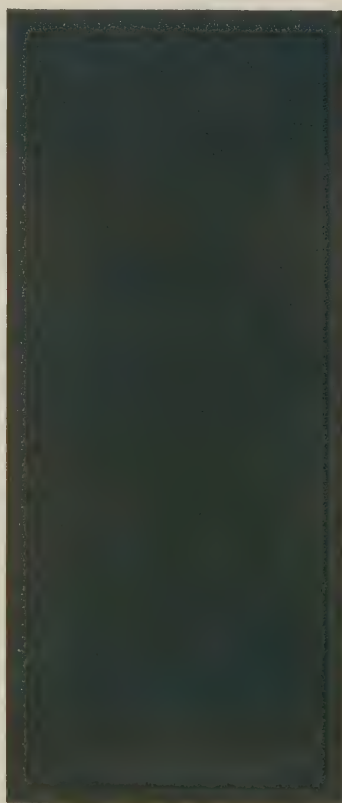
Blond Tan No. 415



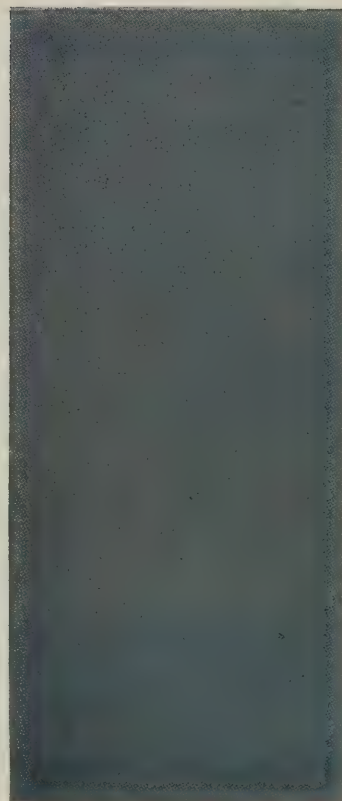
Mist Green No. 416



Brown No. 420



Green No. 421

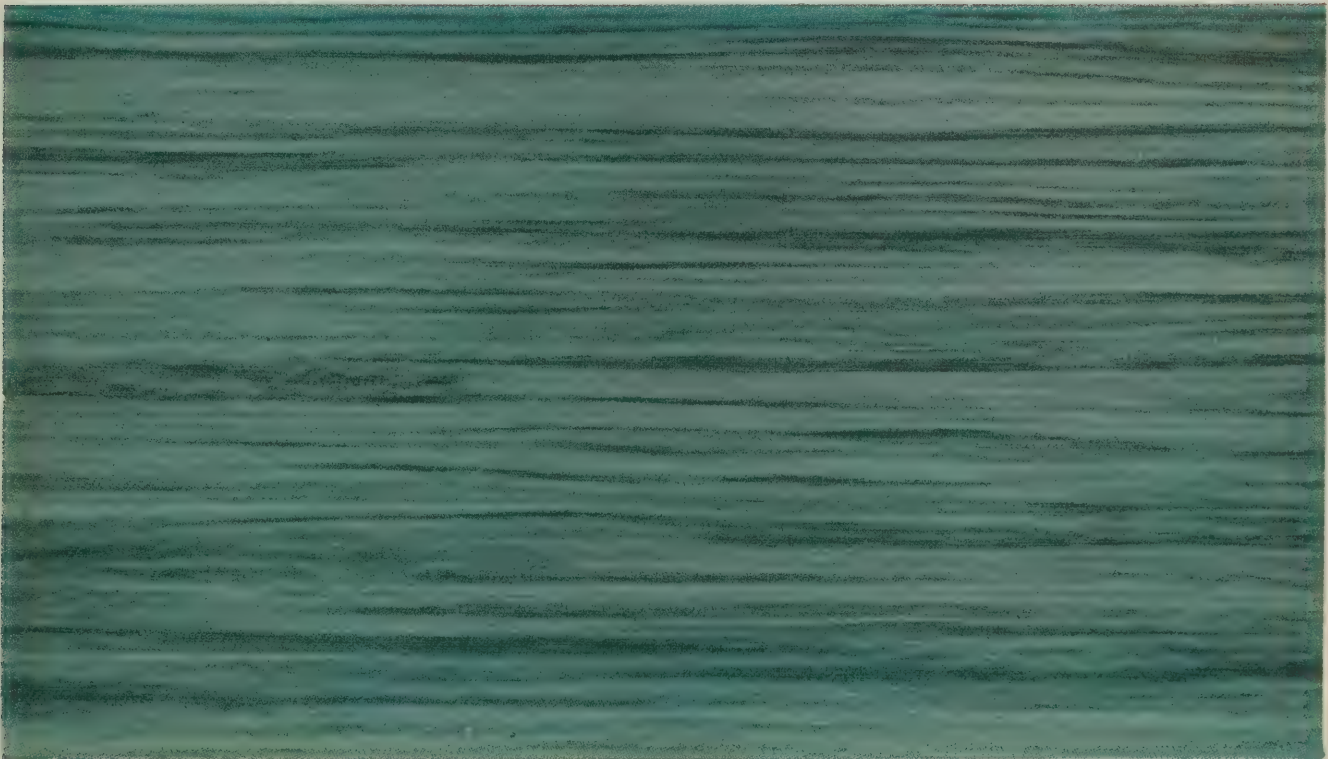


Gray No. 426



Approximately 1/3 actual size

Rubyray No. 70
Standard Gauge



Approximately 1/3 actual size

Aquaray No. 71
Standard Gauge

Armstrong
RAYBELLE LINOLEUM

2 yards wide



Cocoray No. 72
Standard Gauge

Approximately 1/3 actual size



Azuray No. 73
Standard Gauge

Approximately 1/3 actual size

Armstrong
RAYBELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

Silveray No. 74
Standard Gauge



Approximately 1/3 actual size

Multiray No. 76
Standard Gauge

Armstrong
RAYBELLE LINOLEUM

2 yards wide



Roseray No. 77
Standard Gauge

Approximately 1/3 actual size



Yelloray No. 78
Standard Gauge

Approximately 1/3 actual size

Armstrong
RAYBELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

Mistray No. 79
Standard Gauge



Approximately 1/3 actual size

Surfay No. 80
Standard Gauge

Armstrong
RAYBELLE LINOLEUM

2 yards wide



Goldray No. 81
Standard Gauge

Approximately 1/3 actual size



Coralray No. 82
Standard Gauge

Approximately 1/3 actual size

Armstrong
RAYBELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

Tanray No. 83
Standard Gauge

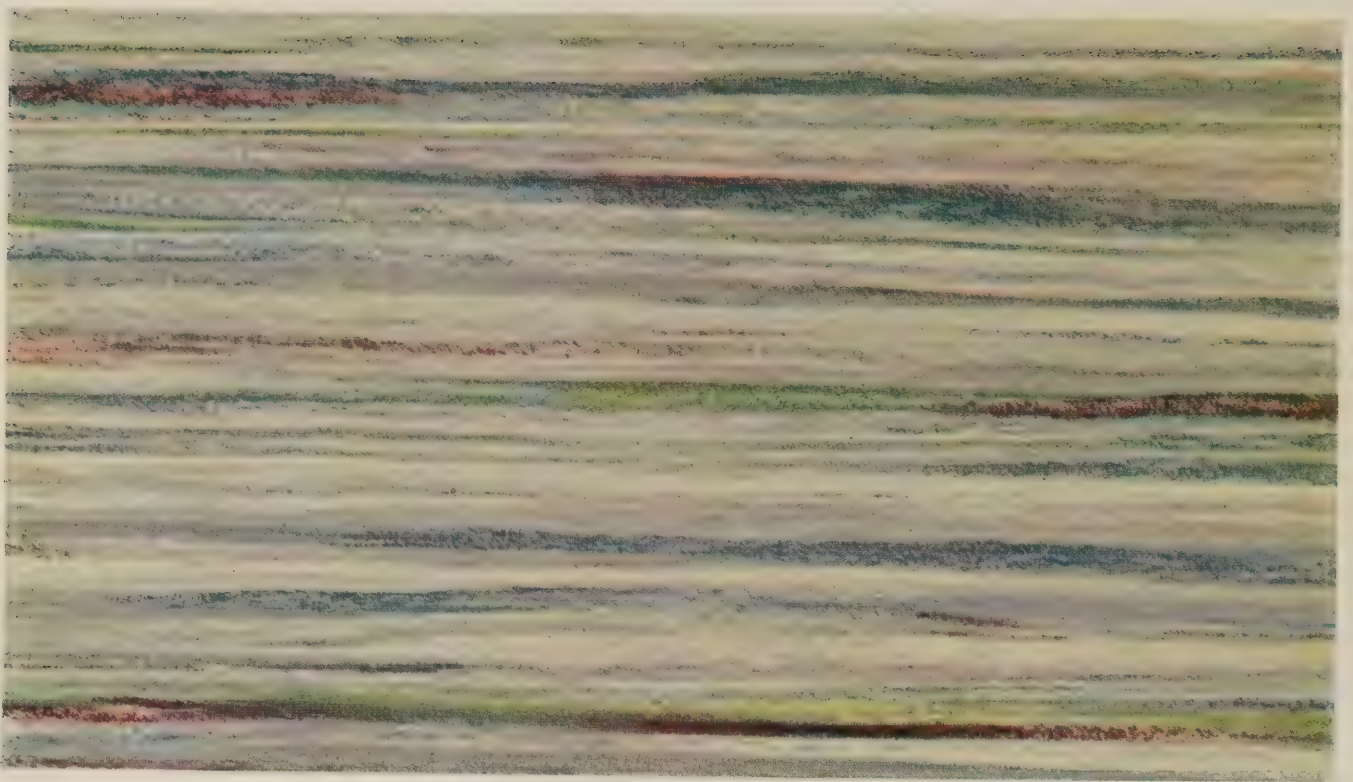


Approximately 1/3 actual size

Chocoray No. 84
Standard Gauge

Armstrong
RAYBELLE LINOLEUM

2 yards wide



Rainboray No. 85
Standard Gauge

Approximately 1/3 actual size



Pinkray No. 86
Standard Gauge

Approximately 1/3 actual size

Armstrong
RAYBELLE LINOLEUM

2 yards wide



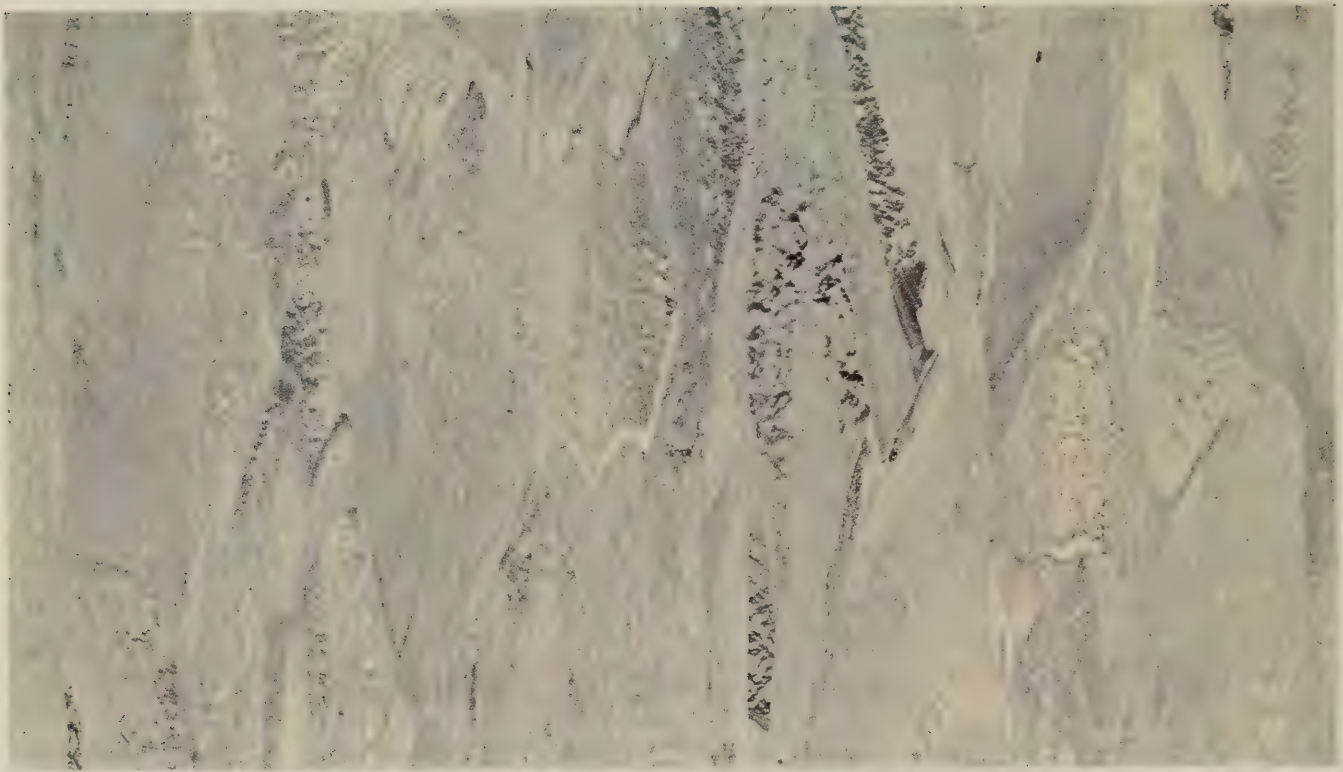
Approximately 1/3 actual size

Taupray No. 87
Standard Gauge



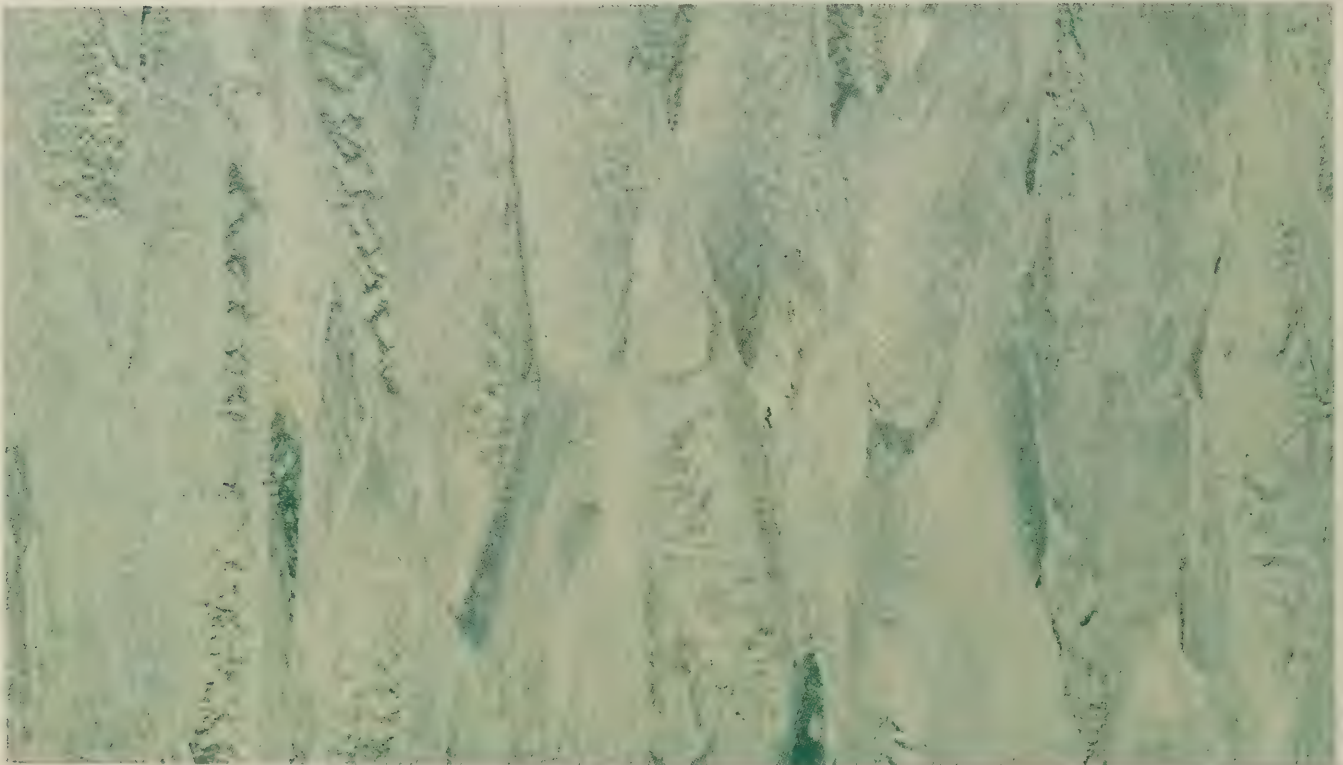
Armstrong Raybelle Linoleum features distinctive brush-stroked graining. The striations are broader than those

in Jaspé effects, and the interesting dramatic contrast between light and dark strokes is considerably heightened.



No. 1500
Standard Gauge

Approximately 1/3 actual size



No. 1501
Standard Gauge

Approximately 1/3 actual size

Armstrong
ROYELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

No. 1502
Standard Gauge

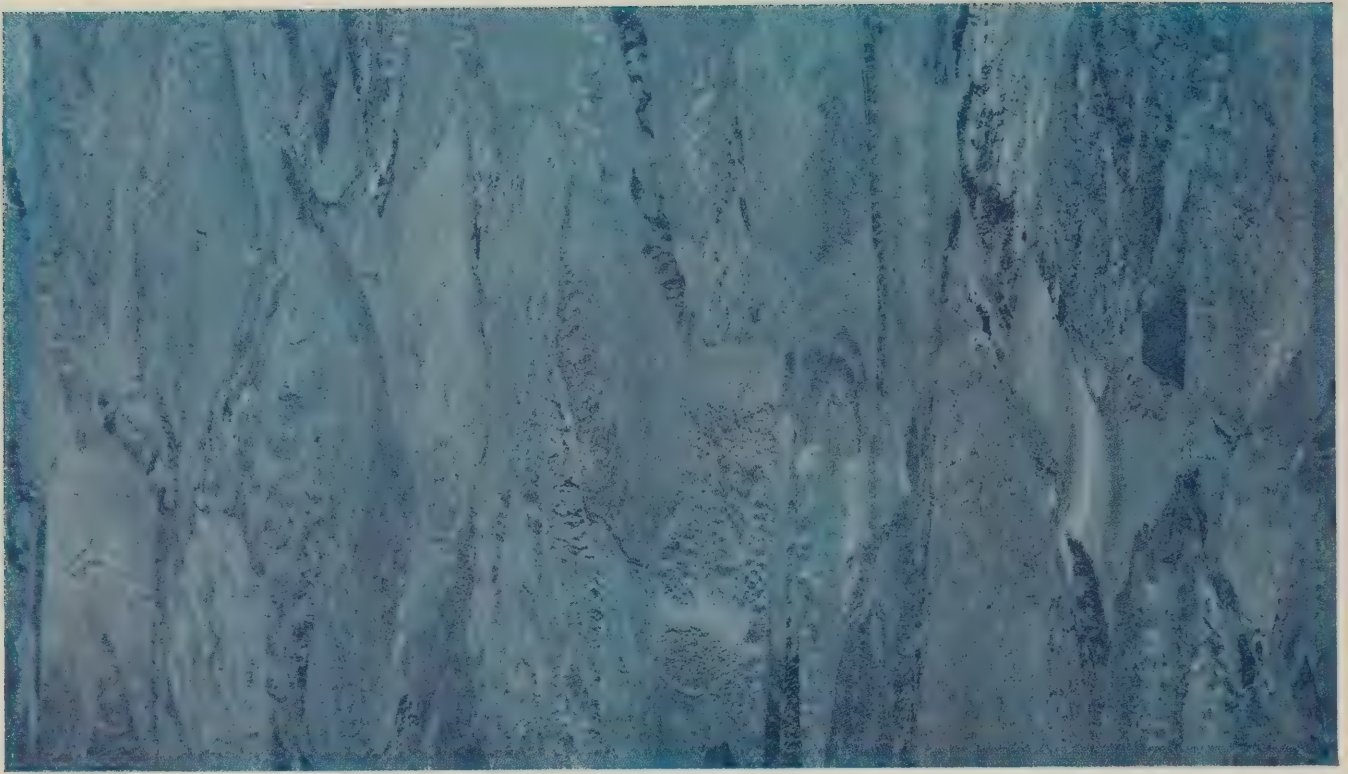


Approximately 1/3 actual size

No. 1503
Standard Gauge

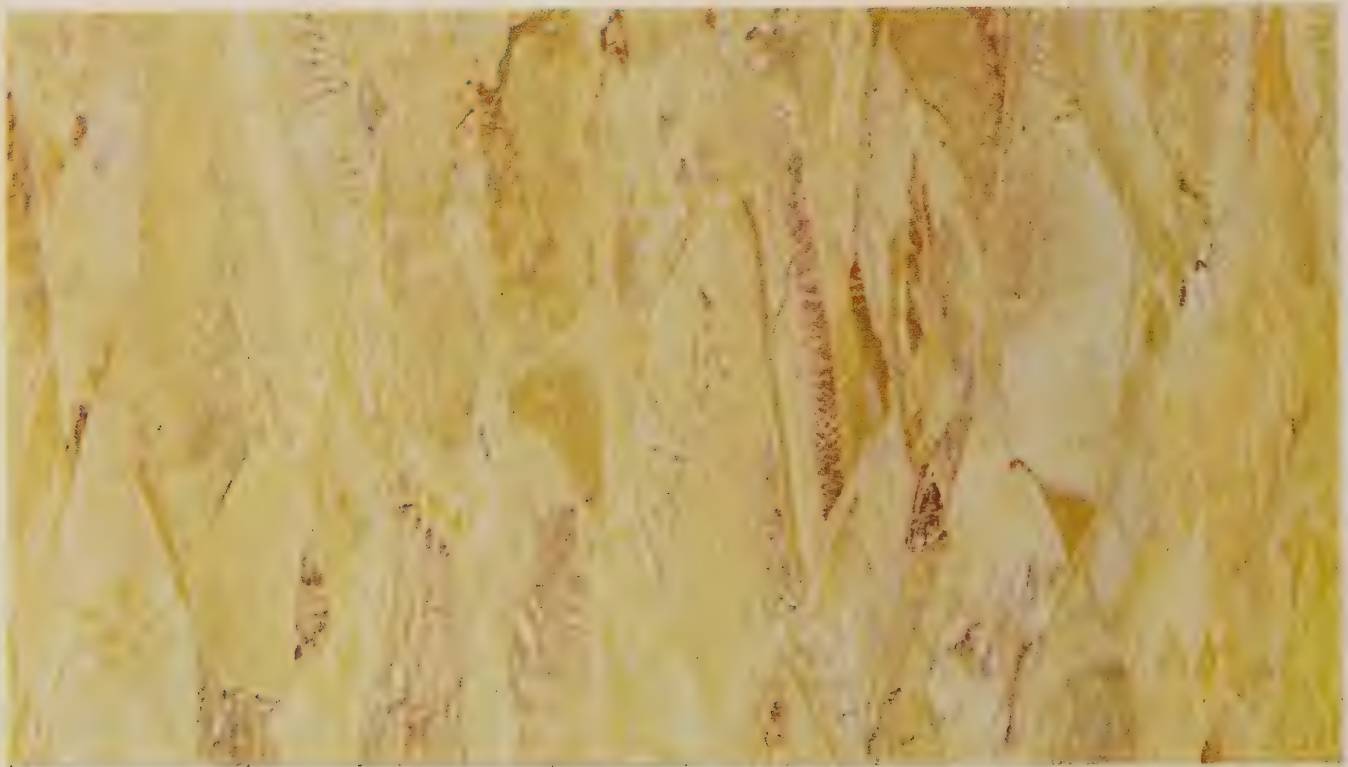
Armstrong
ROYELLE LINOLEUM

2 yards wide



No. 1504
Standard Gauge

Approximately 1/3 actual size



No. 1505
Standard Gauge

Approximately 1/3 actual size

Armstrong
ROYELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

No. 1506
Standard Gauge



Approximately 1/3 actual size

No. 1507
Standard Gauge

Armstrong
ROYELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

No. 1508
Standard Gauge

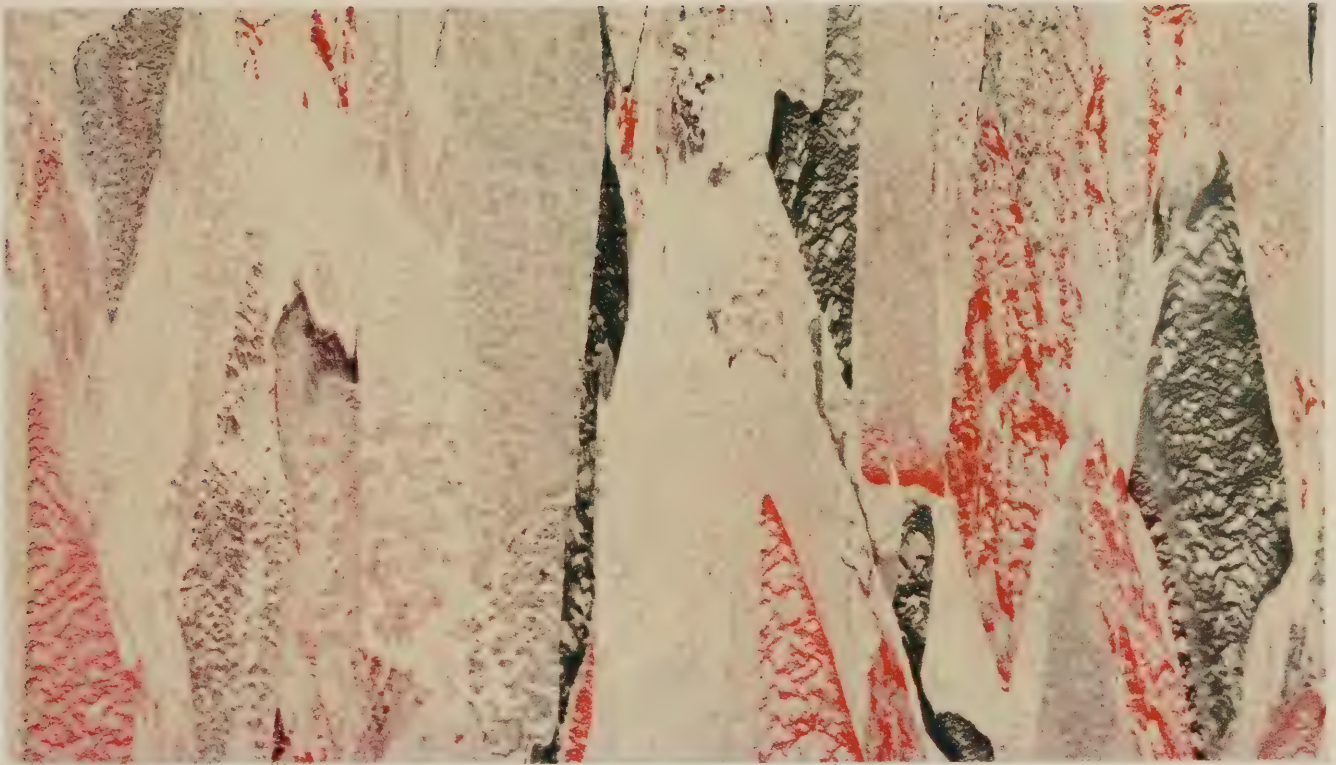


Approximately 1/3 actual size

No. 1509
Standard Gauge

Armstrong
ROYELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

No. 1510
Standard Gauge



Approximately 1/3 actual size

No. 1511
Standard Gauge

Armstrong
ROYELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

No. 1512
Standard Gauge



Approximately 1/3 actual size

No. 1513
Standard Gauge

Armstrong
ROYELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

No. 1514
Standard Gauge



Approximately 1/3 actual size

No. 1515
Standard Gauge

Armstrong
ROYELLE LINOLEUM

2 yards wide



No. 1516
Standard Gauge

Approximately 1/3 actual size



No. 1517
Standard Gauge

Approximately 1/3 actual size

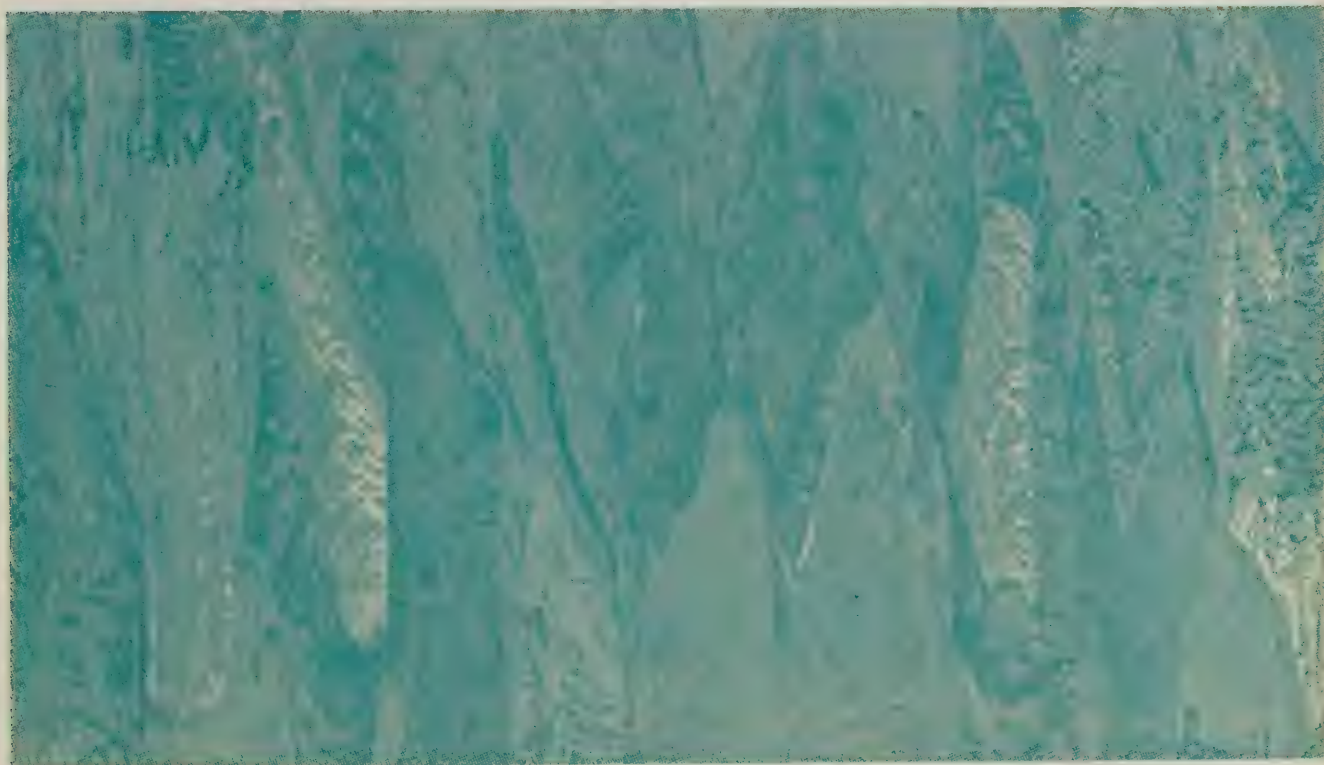
Armstrong
ROYELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

No. 1518
Standard Gauge



Approximately 1/3 actual size

No. 1519
Standard Gauge

Armstrong
ROYELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

Armstrong
TEXTELLE LINOLEUM
No. 1550
Heavy Gauge
2 yards wide



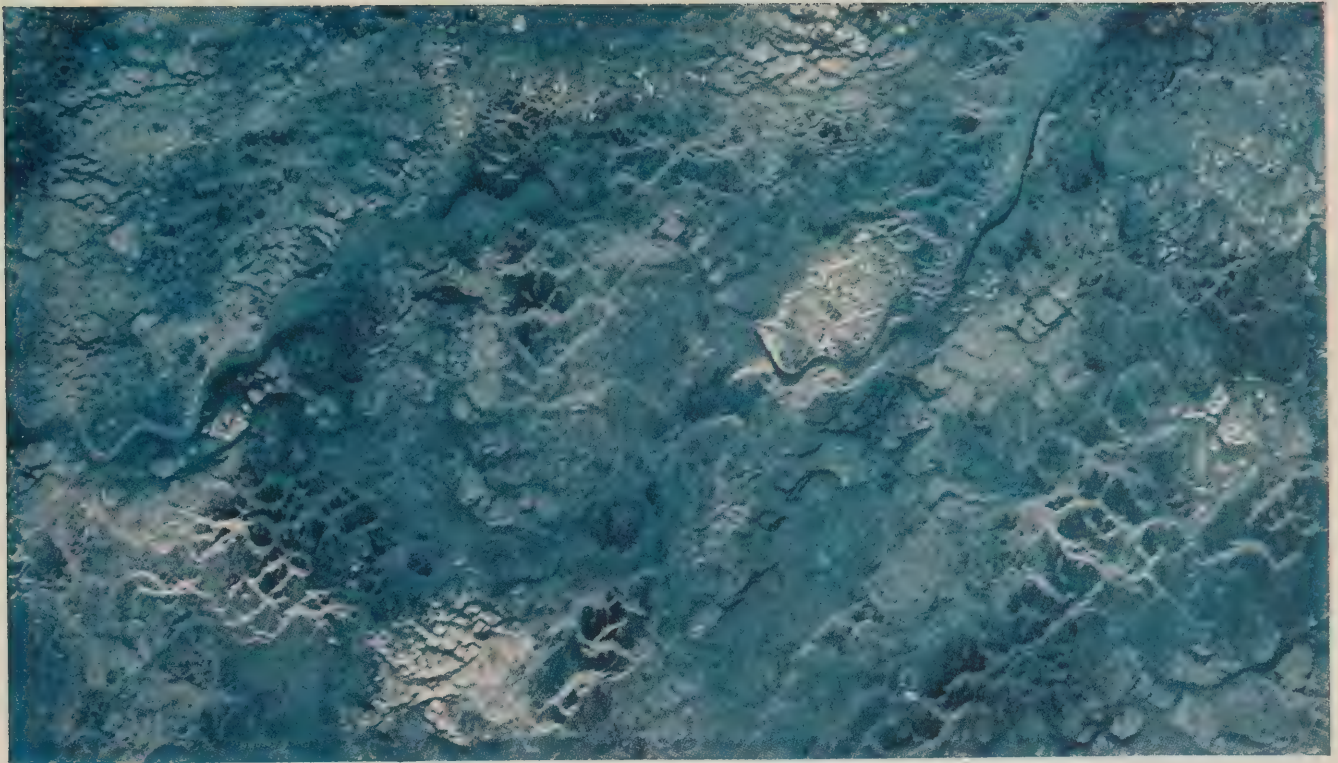
Approximately 1/3 actual size

Armstrong
TEXTELLE LINOLEUM
No. 1551
Heavy Gauge
2 yards wide



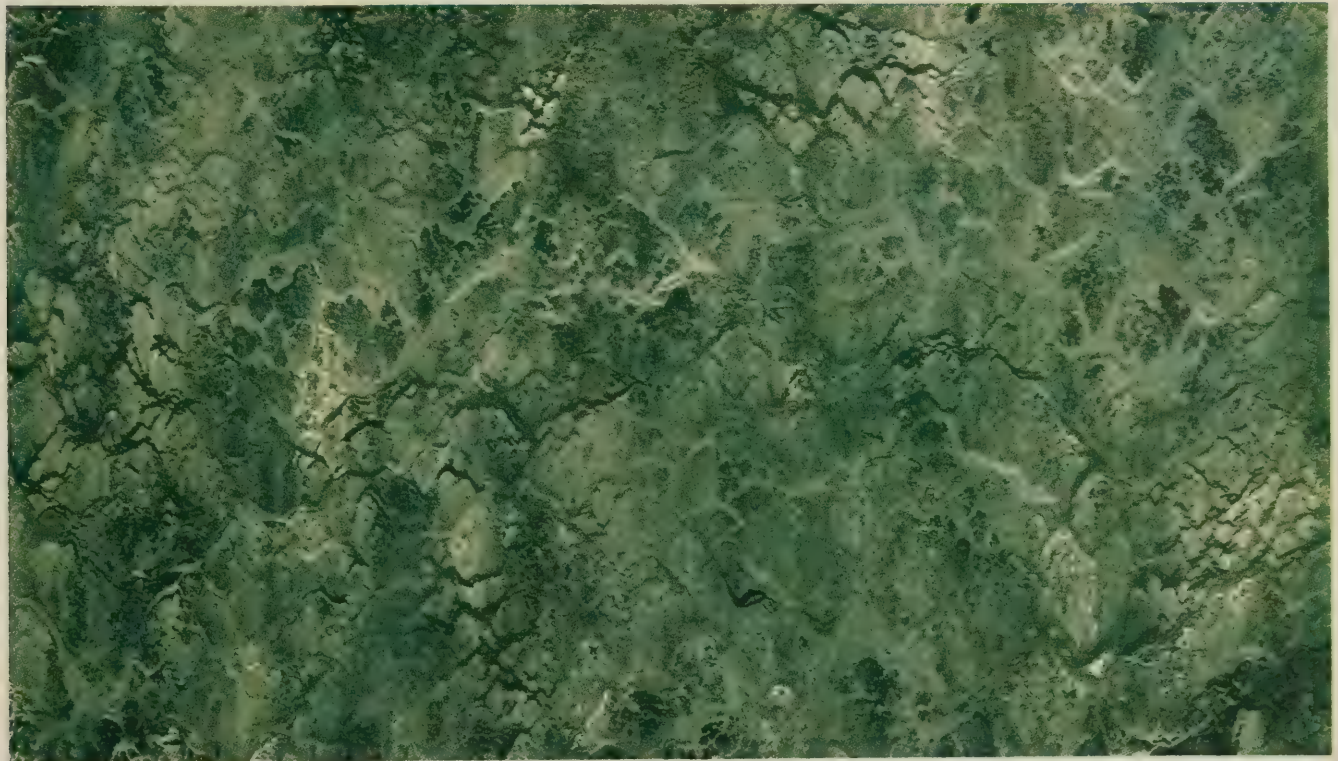
Approximately 1/3 actual size

Armstrong
TEXTELLE LINOLEUM
No. 1552
Heavy Gauge
2 yards wide



Approximately 1/3 actual size

No. 02
Standard and Light Gauge



Approximately 1/3 actual size

No. 08
Heavy (1/8"), Standard, and Light Gauge

Armstrong
MARBELLE LINOLEUM

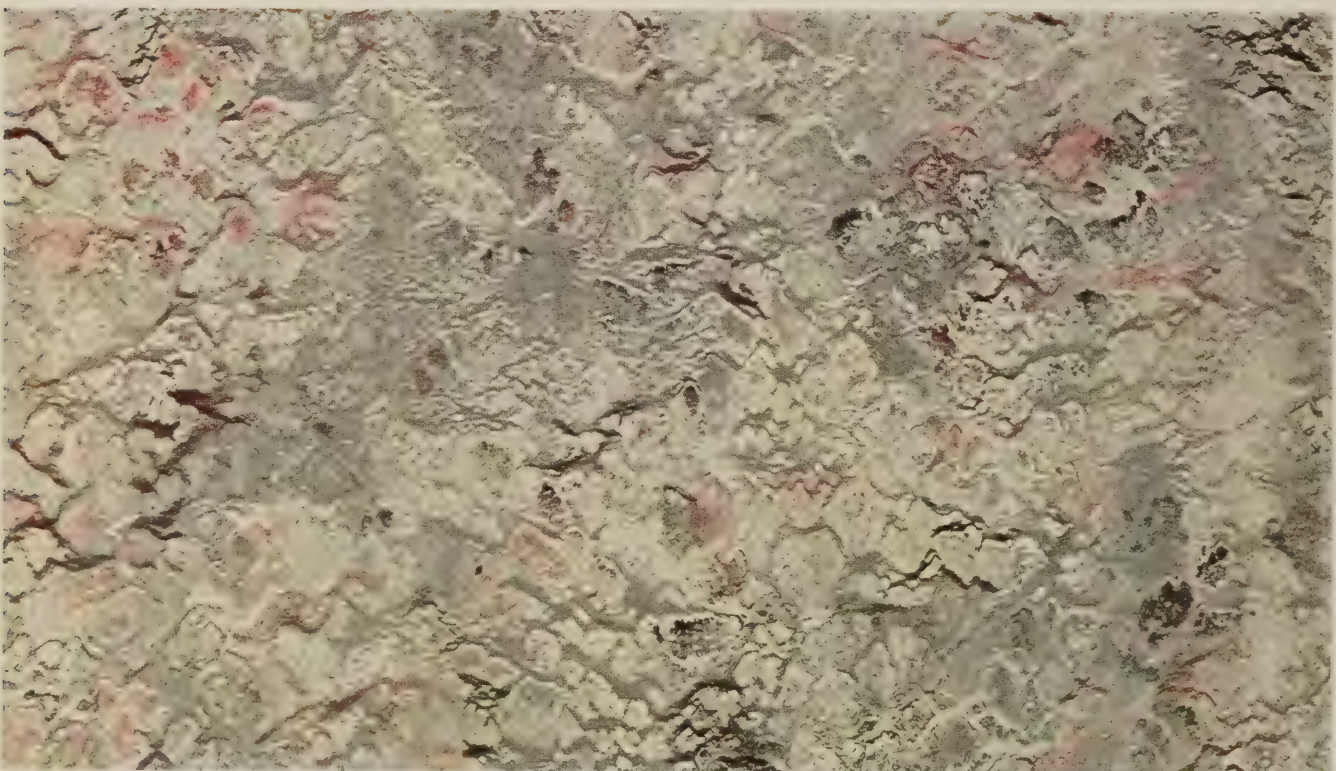
2 yards wide



No. 09

Approximately 1/3 actual size

Heavy (1/8"), Standard, and Light Gauge



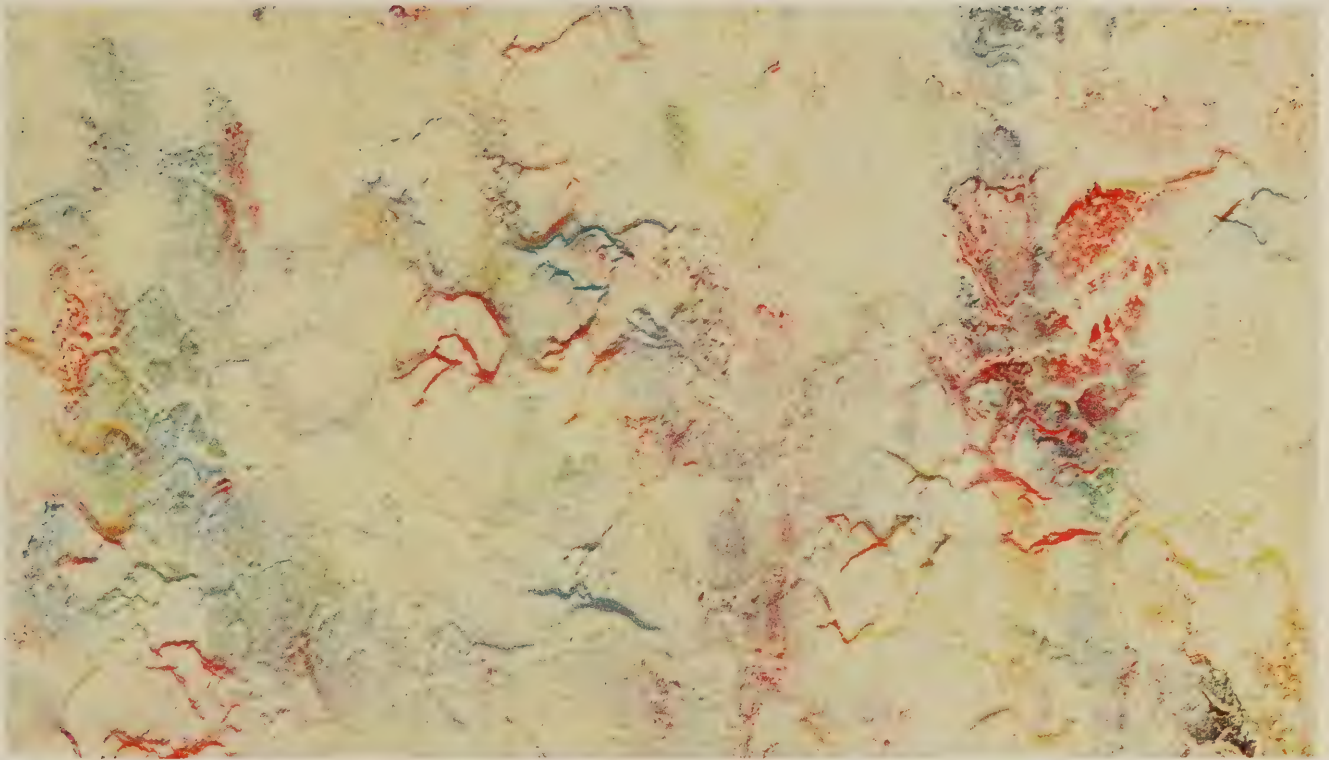
No. 014

Approximately 1/3 actual size

Heavy (1/8"), Standard, and Light Gauge

Armstrong
MARBELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

No. 015
Standard and Light Gauge

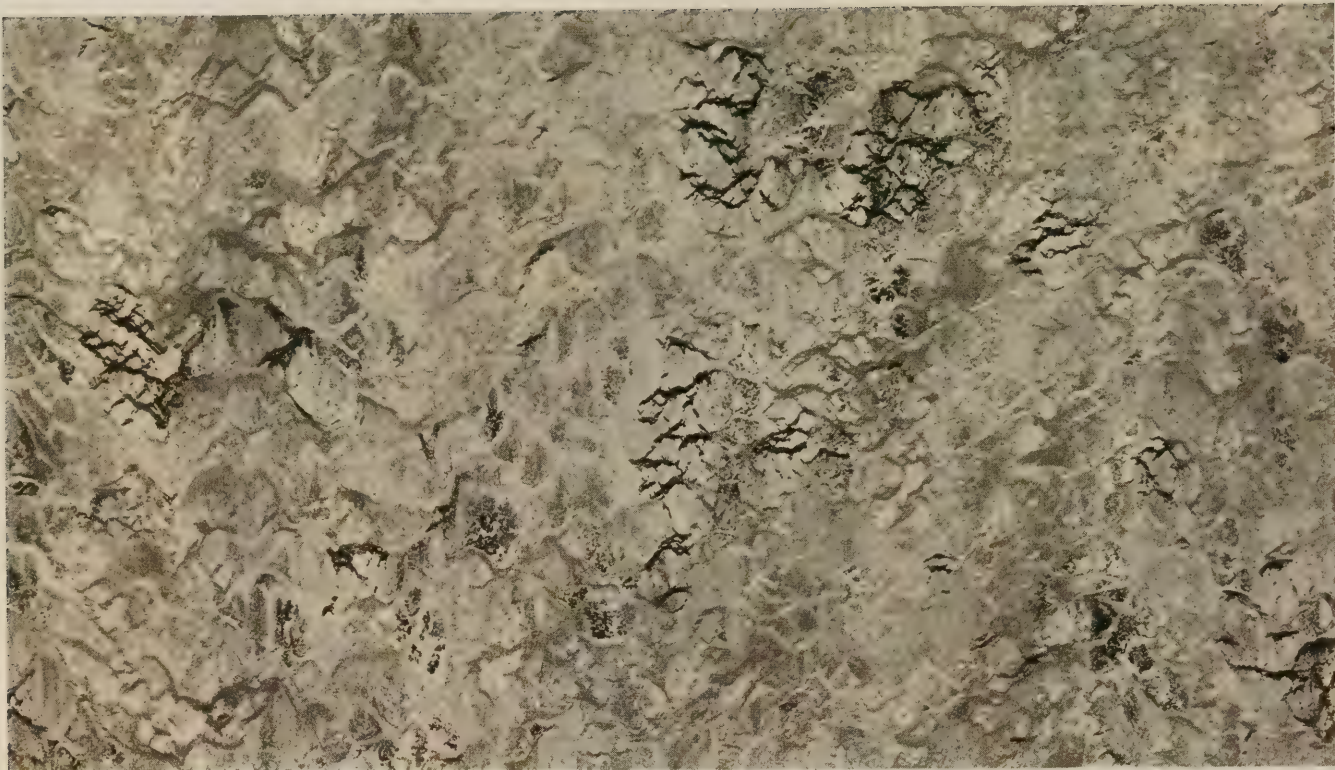


Approximately 1/3 actual size

No. 017
Heavy (1/8") Gauge Only

Armstrong
MARBELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

No. 018

Heavy (1/8") Gauge Only



Approximately 1/3 actual size

No. 021

Heavy (1/8"), Standard, and Light Gauge

Armstrong

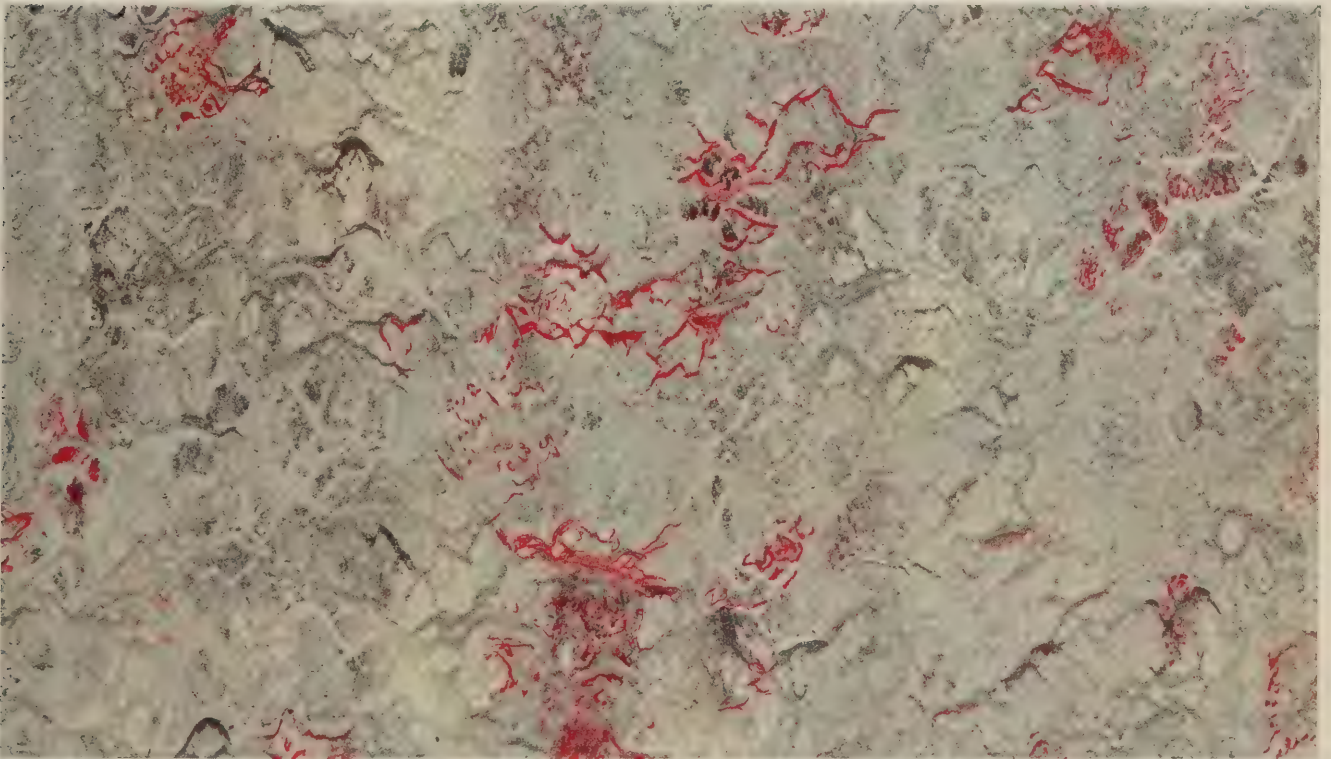
MARBELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

No. 022
Heavy (1/8") Gauge Only



Approximately 1/3 actual size

No. 024
Standard and Light Gauge Only

Armstrong
MARBELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

No. 026

Standard and Light Gauge Only



Approximately 1/3 actual size

No. 029

Standard and Light Gauge Only

Armstrong

MARBELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

No. 030

Heavy (1/8"), Standard, and Light Gauge



Approximately 1/3 actual size

No. 031

Standard and Light Gauge Only

Armstrong
MARBELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

No. 032

Heavy (1/8") and Standard Gauge Only



Approximately 1/3 actual size

No. 034

Heavy (1/8") Gauge Only

Armstrong
MARBELLE LINOLEUM

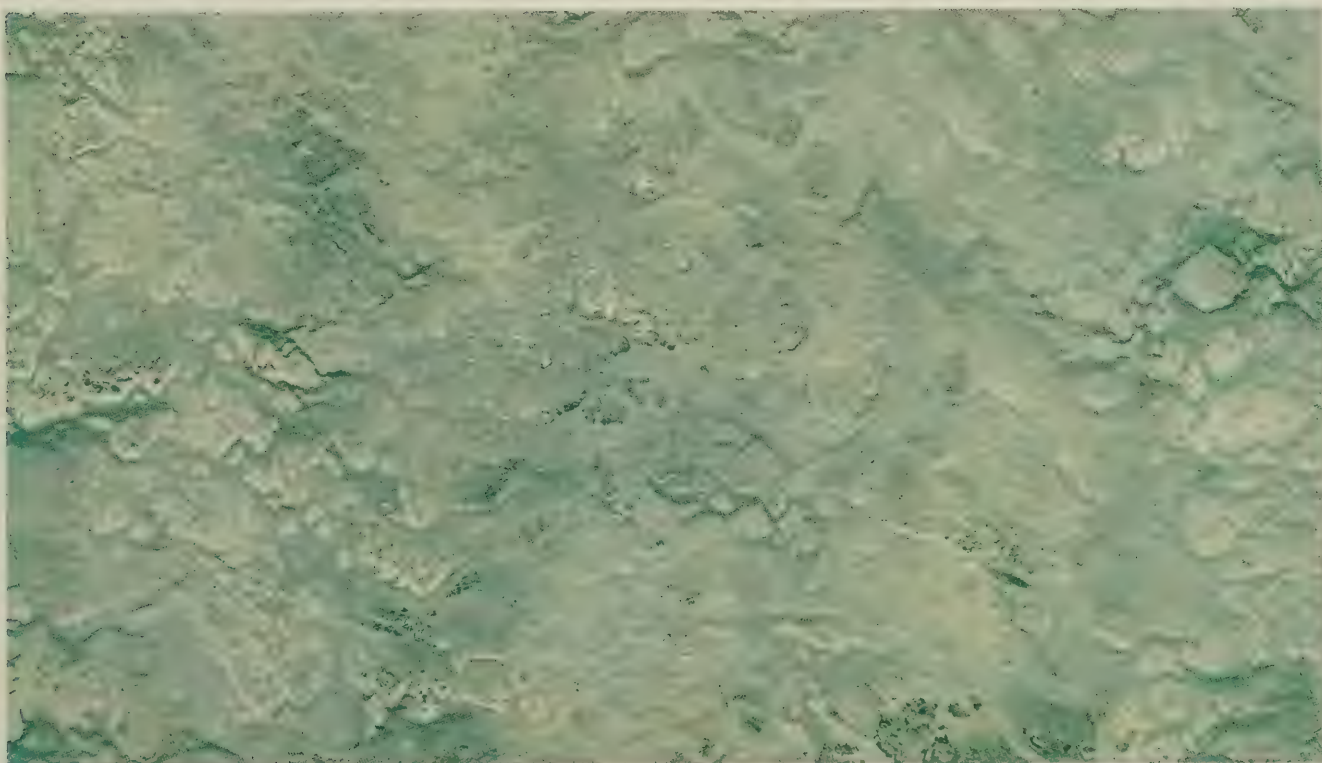
2 yards wide



Approximately 1/3 actual size

No. 036

Heavy (1/8") Gauge Only



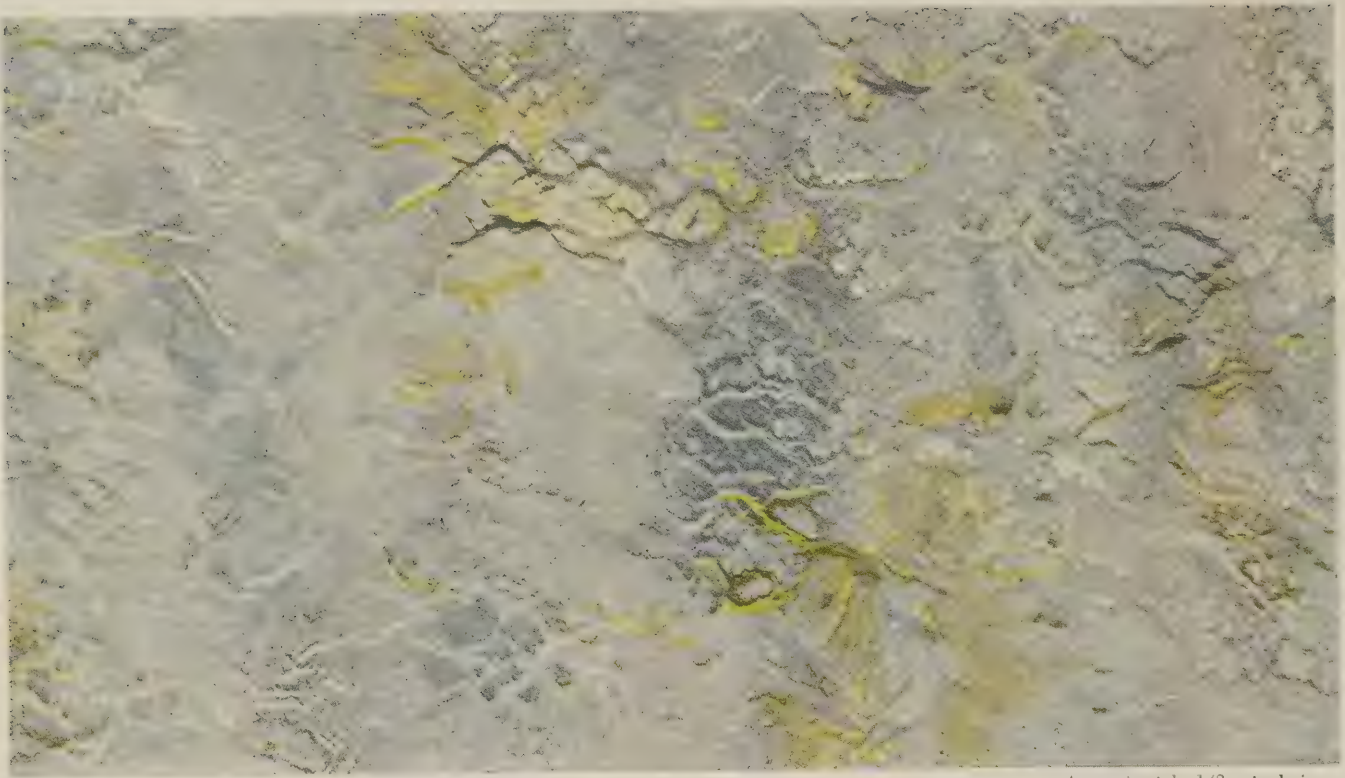
Approximately 1/3 actual size

No. 041

Standard and Light Gauge Only

Armstrong
MARBELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

No. 042

Heavy (1/8"), Standard, and Light Gauge



Approximately 1/3 actual size

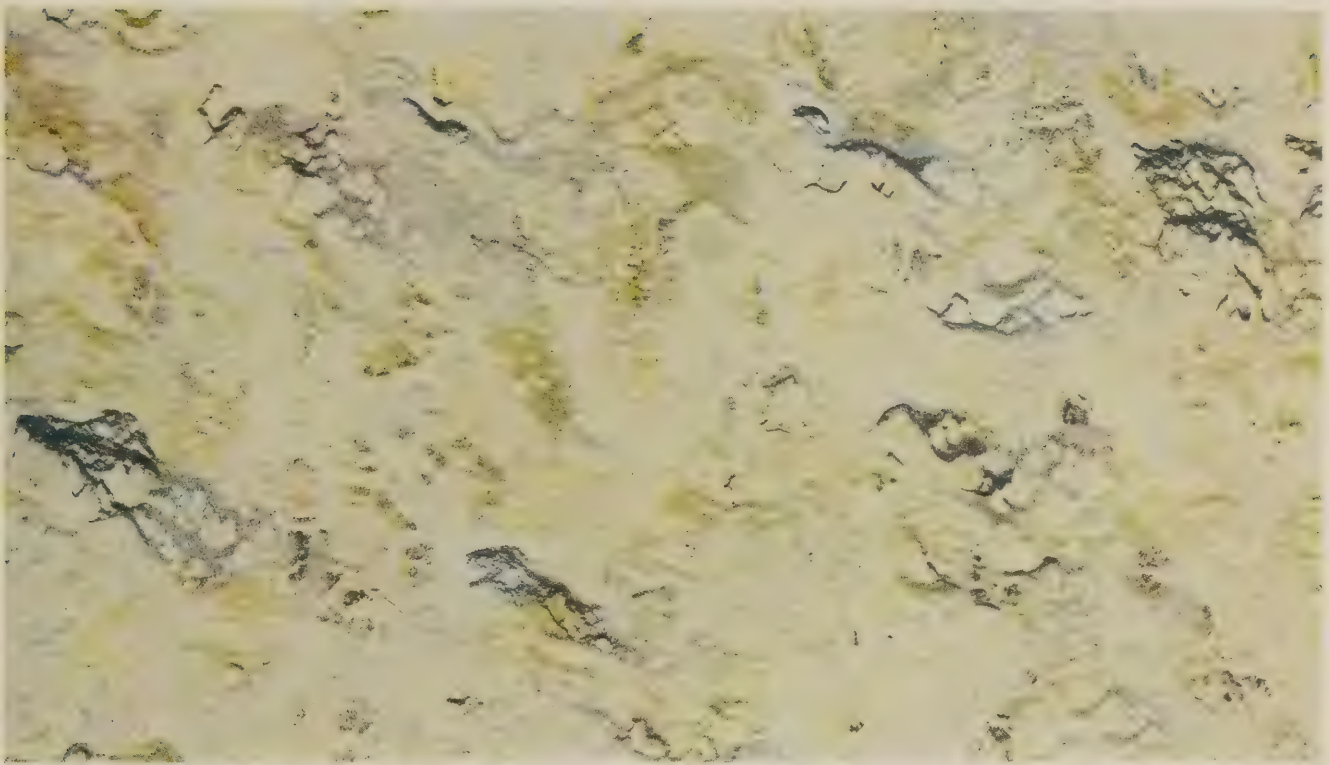
No. 043

Heavy (1/8") and Standard Gauge Only

Armstrong

MARBELLE LINOLEUM

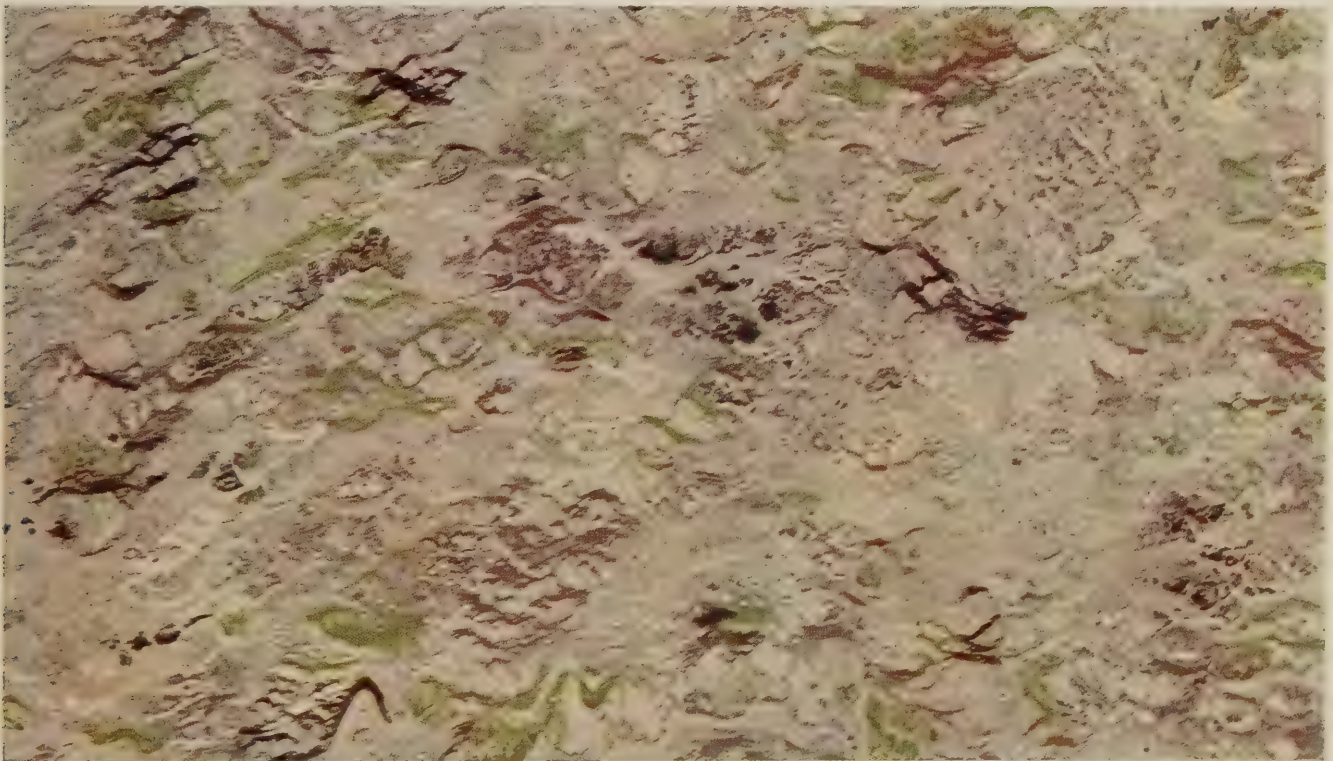
2 yards wide



Approximately 1/3 actual size

No. 044

Standard and Light Gauge Only



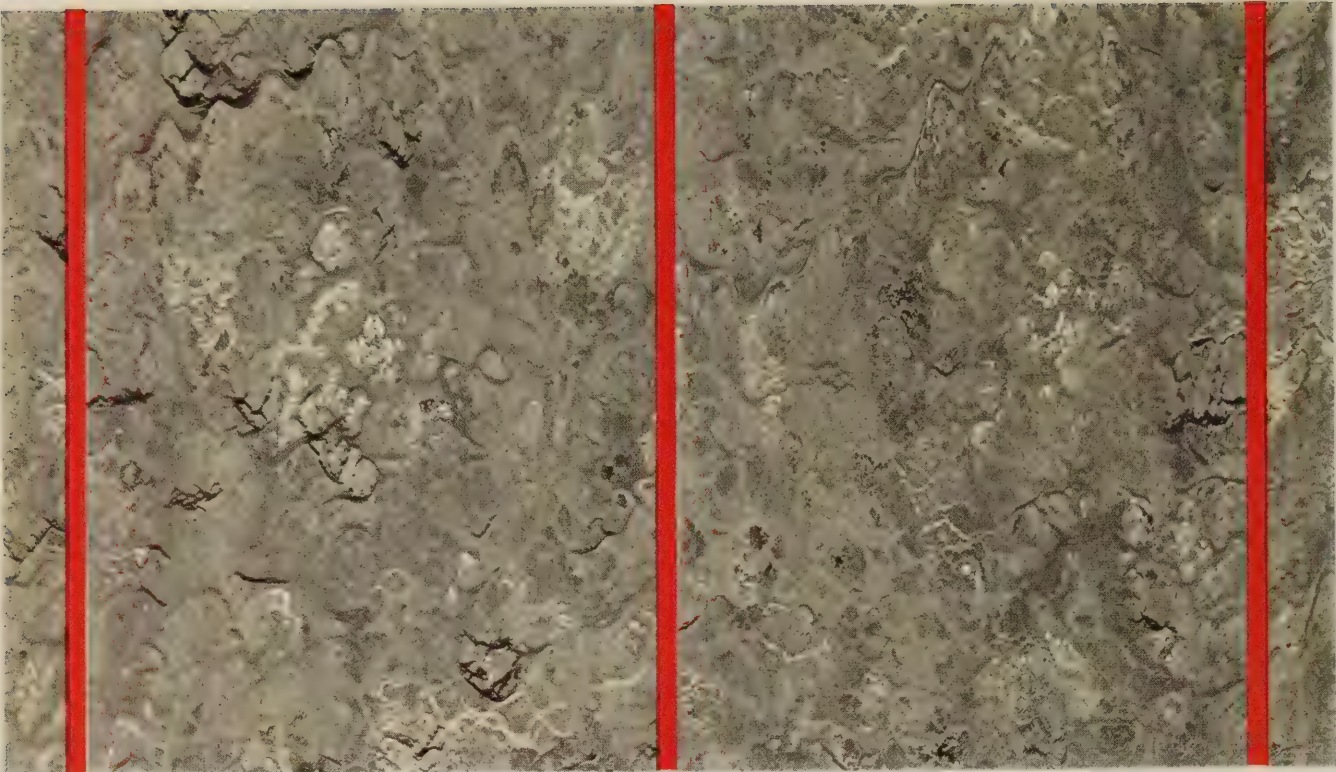
Approximately 1/3 actual size

No. 045

Heavy (1/8"), Standard, and Light Gauge

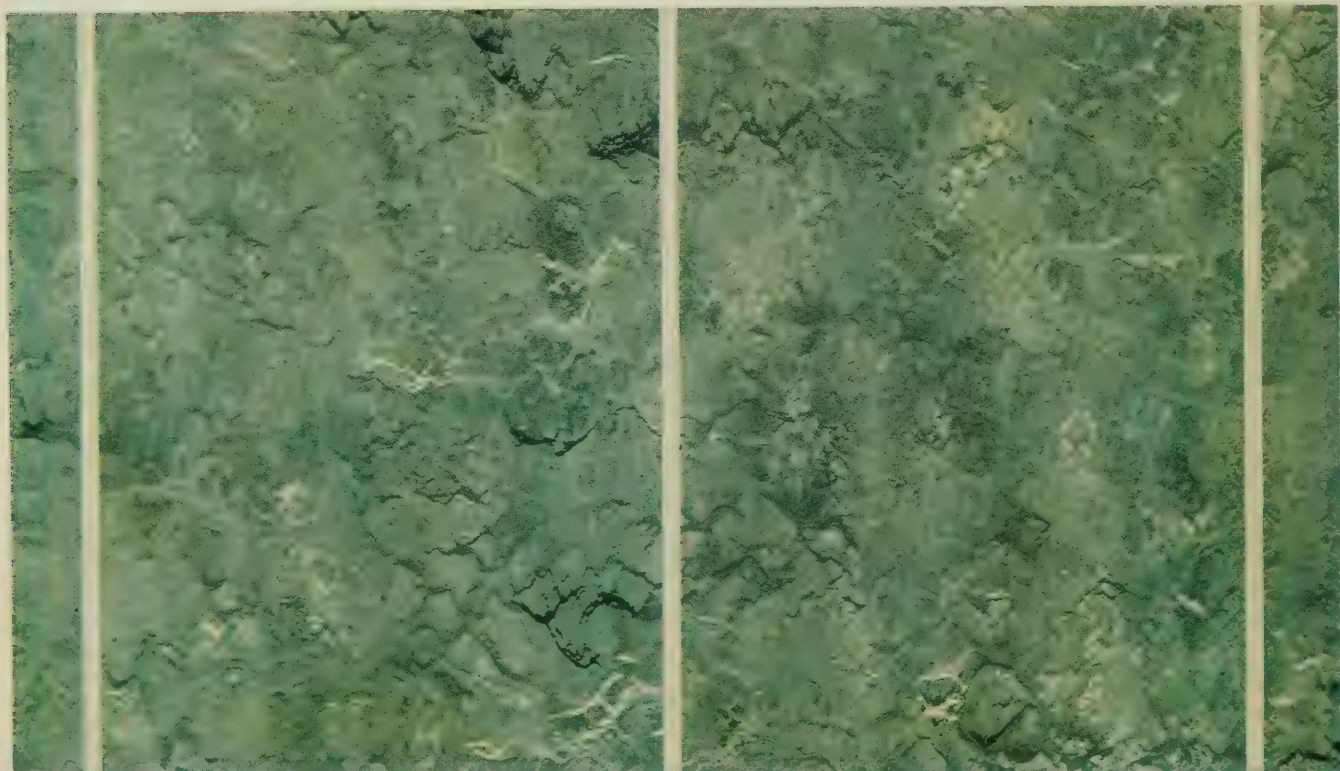
Armstrong
MARBELLE LINOLEUM

2 yards wide



No. 1602
Standard Gauge

Approximately 1/4 actual size



No. 1605
Standard Gauge

Approximately 1/4 actual size

Armstrong
STRYPELLE LINOLEUM

2 yards wide



Approximately 1/3 actual size

No. 1800
Light Gauge



Approximately 1/3 actual size

No. 1801
Light Gauge

Armstrong
DECORAY LINOLEUM

2 yards wide



No. 1802
Light Gauge

Approximately 1/3 actual size

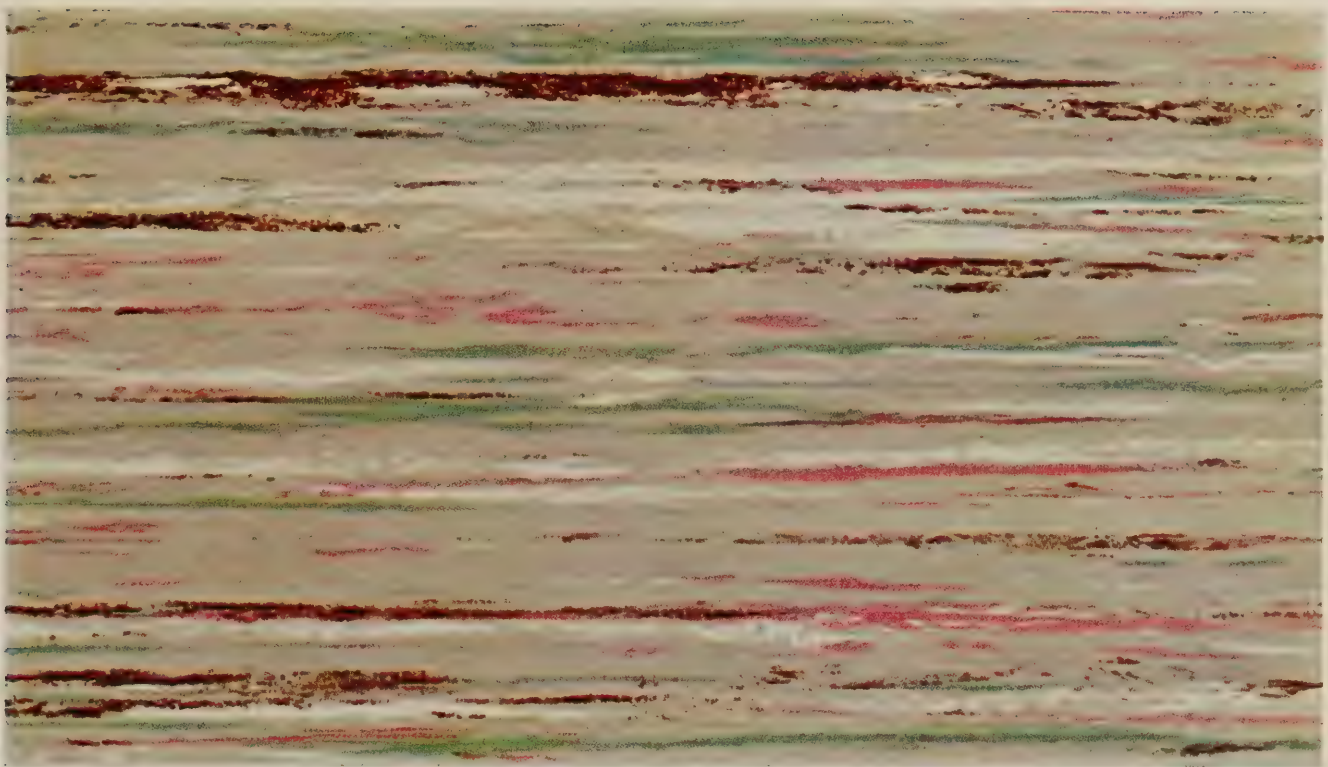


No. 1803
Light Gauge

Approximately 1/3 actual size

Armstrong
DECORAY LINOLEUM

2 yards wide



Approximately 1/3 actual size

No. 1804
Light Gauge



Approximately 1/3 actual size

No. 1805
Light Gauge

Armstrong
DECORAY LINOLEUM

2 yards wide



Fiesta White No. 5000
Standard Gauge

Approximately 1/4 actual size



Mantilla Black No. 5001
Standard Gauge

Approximately 1/4 actual size

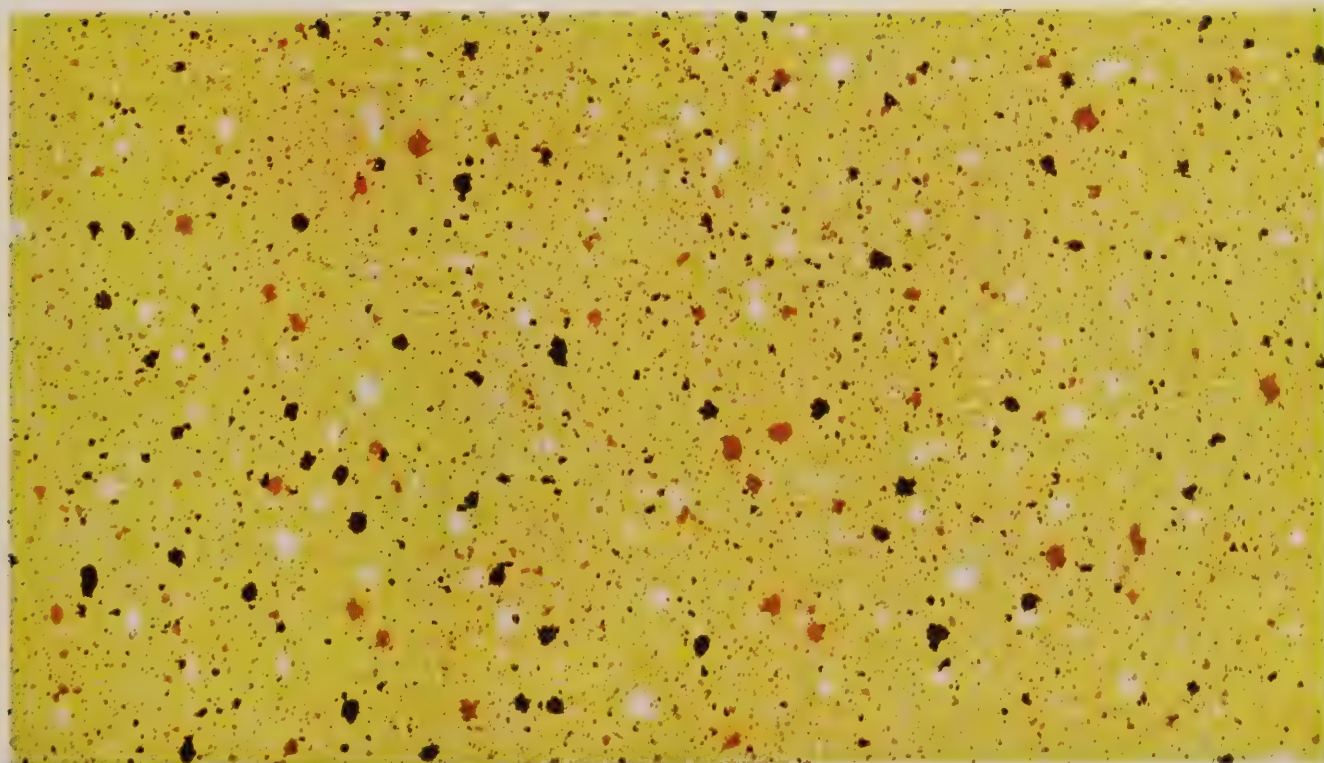
Armstrong
SPATTER LINOLEUM

2 yards wide



Approximately 1/4 actual size

Granada Gray No. 5004
Standard Gauge

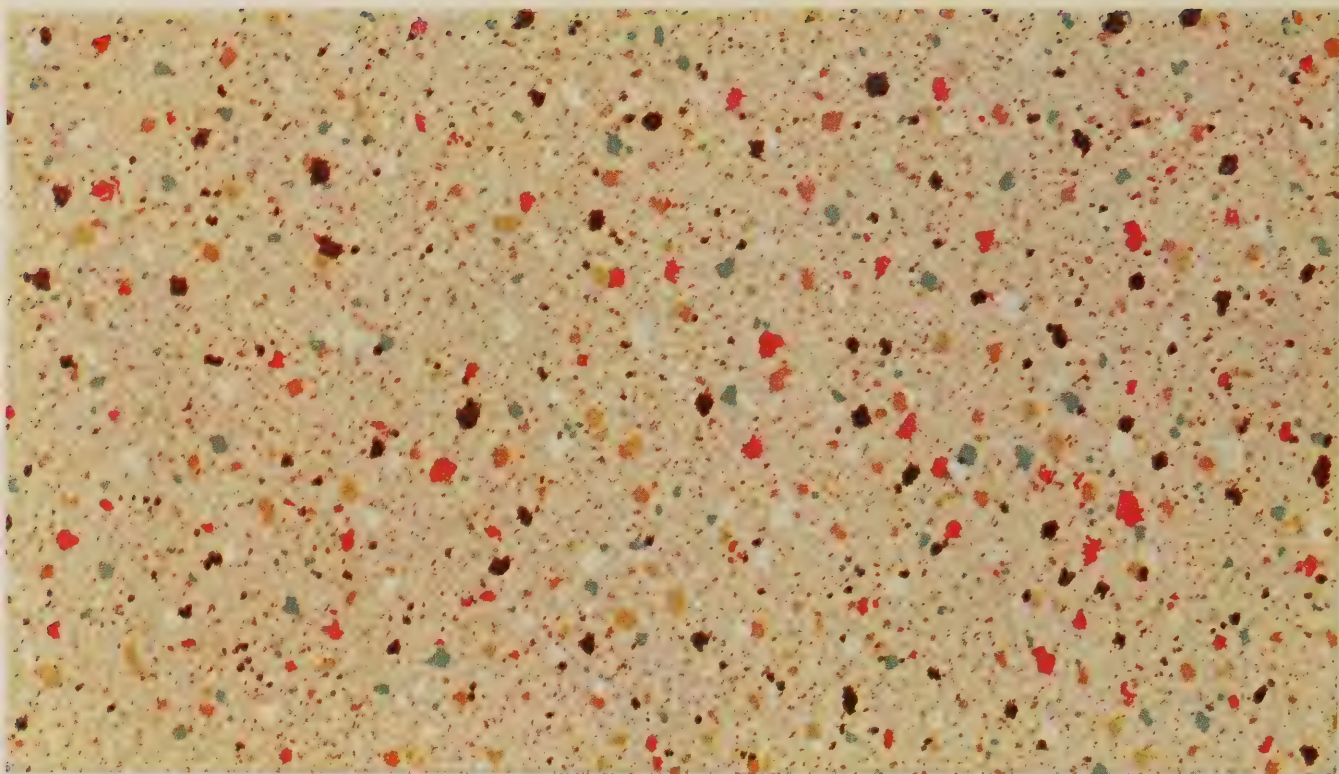


Approximately 1/4 actual size

Cortez Yellow No. 5005
Standard Gauge

Armstrong
SPATTER LINOLEUM

2 yards wide



Tuscany Tan No. 5007
Standard Gauge

Approximately 1/4 actual size

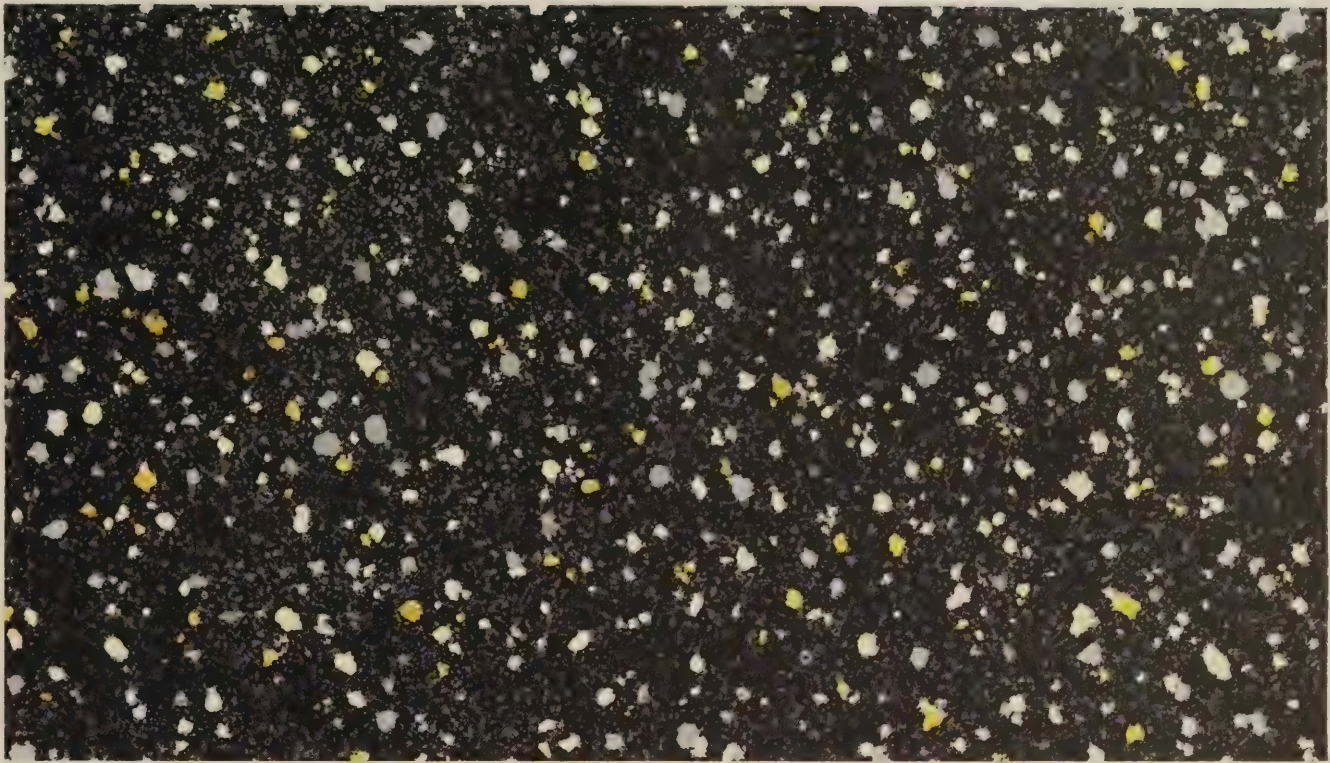


Cordova Brown No. 5008
Standard Gauge

Approximately 1/4 actual size

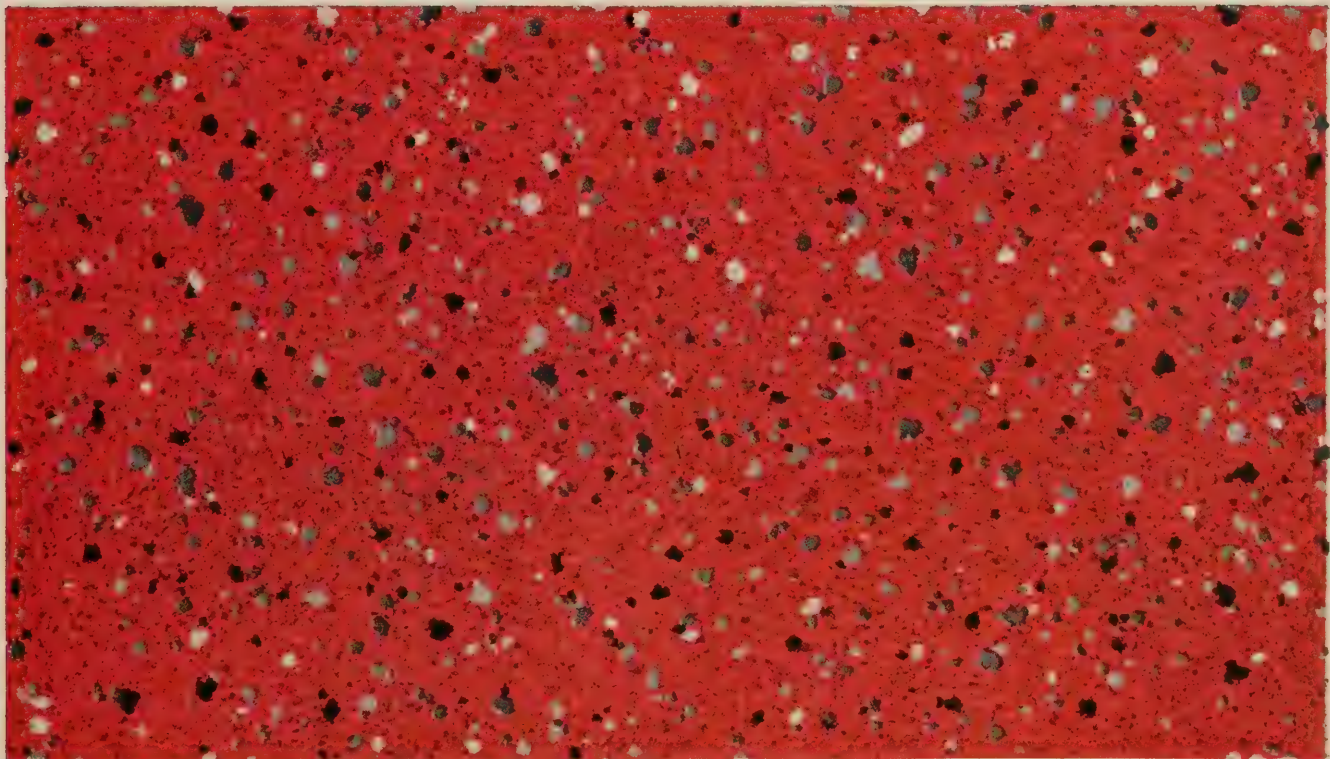
Armstrong
SPATTER LINOLEUM

2 yards wide



Approximately 1/4 actual size

Duenna Black No. 5011
Standard Gauge

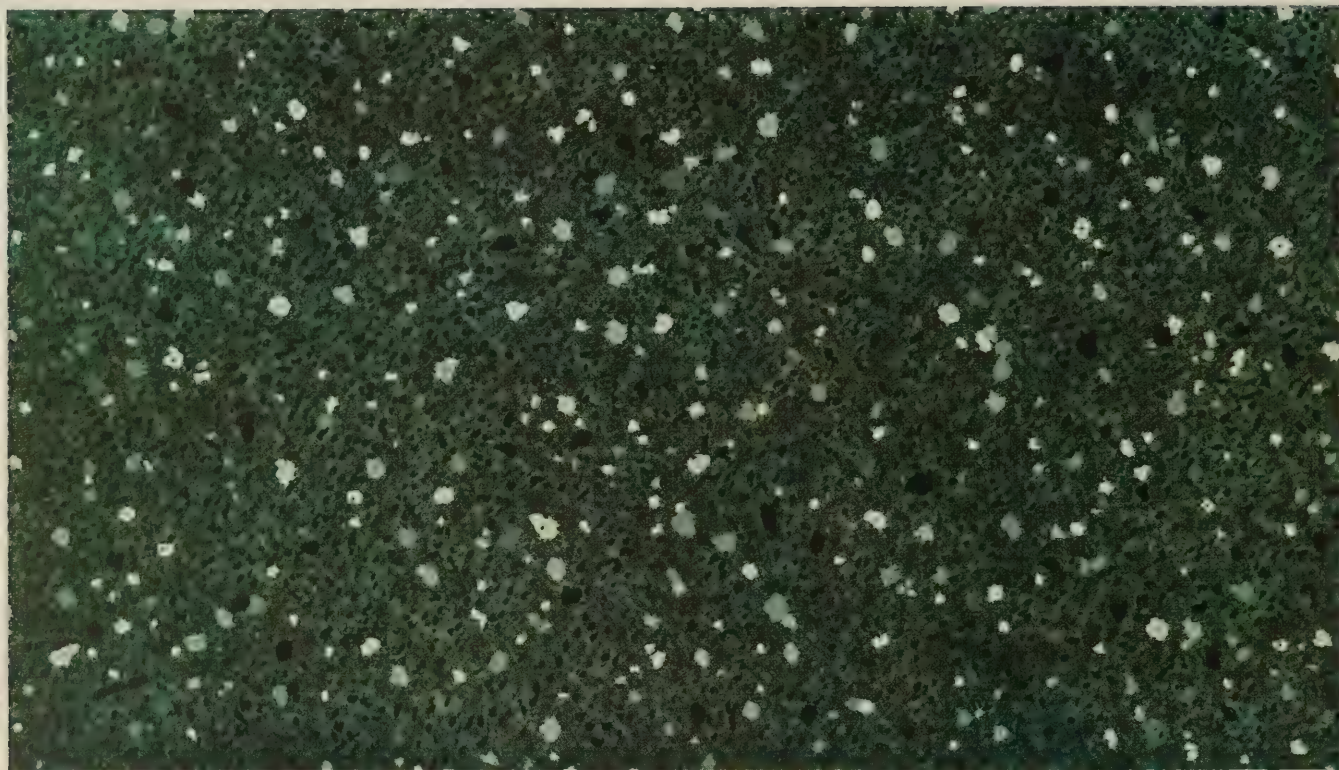


Approximately 1/4 actual size

Toreador Red No. 5012
Standard Gauge

Armstrong
SPATTER LINOLEUM

2 yards wide



Tarragon Green No. 5013
Standard Gauge

Approximately 1/4 actual size

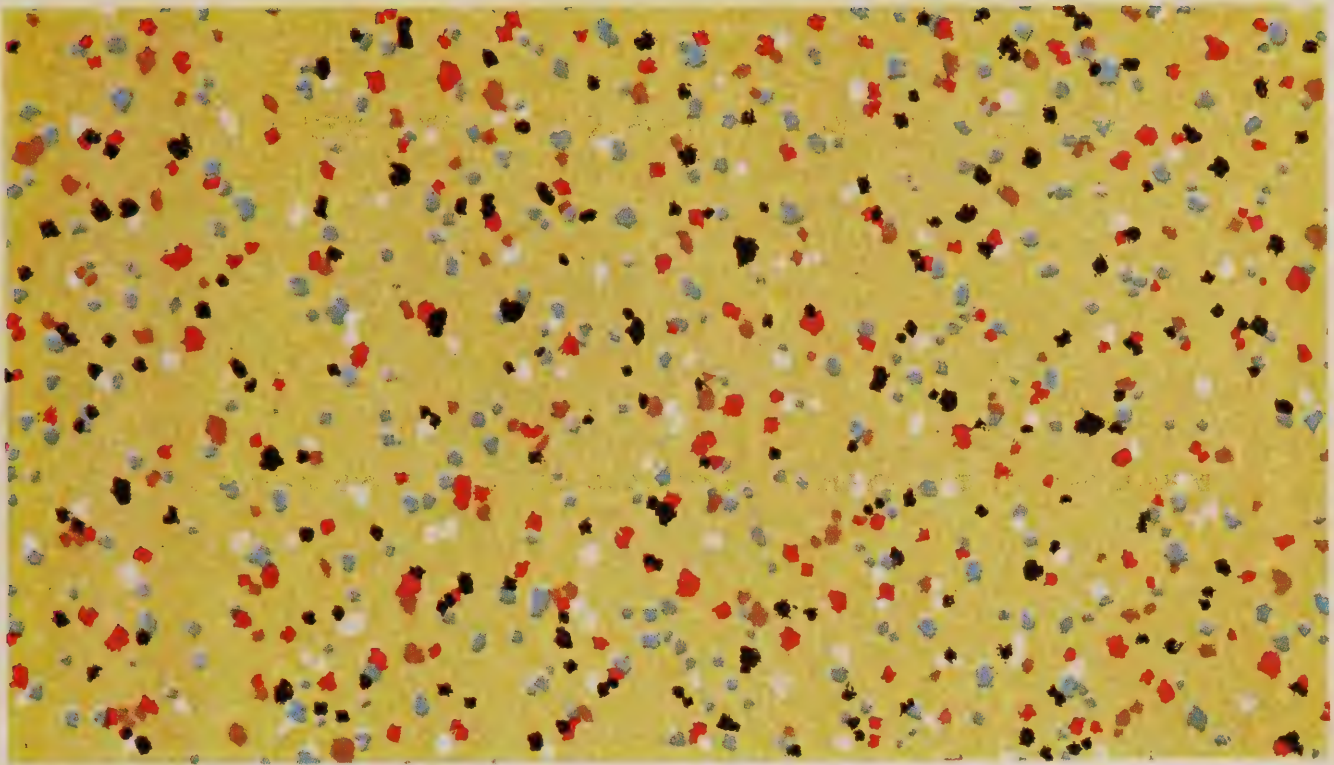


Toledo Taupe No. 5014
Standard Gauge

Approximately 1/4 actual size

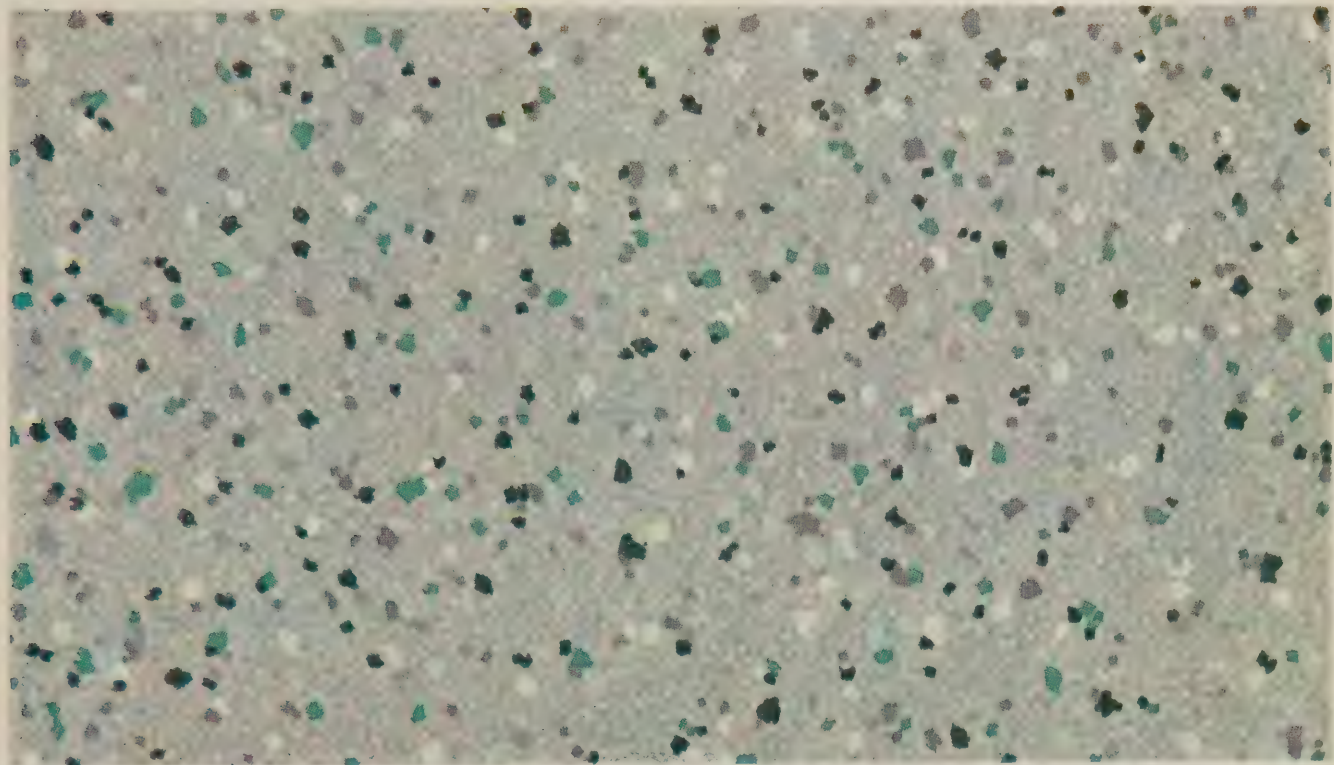
Armstrong
SPATTER LINOLEUM

2 yards wide



Approximately 1/4 actual size

Morena Yellow No. 5015
Standard Gauge

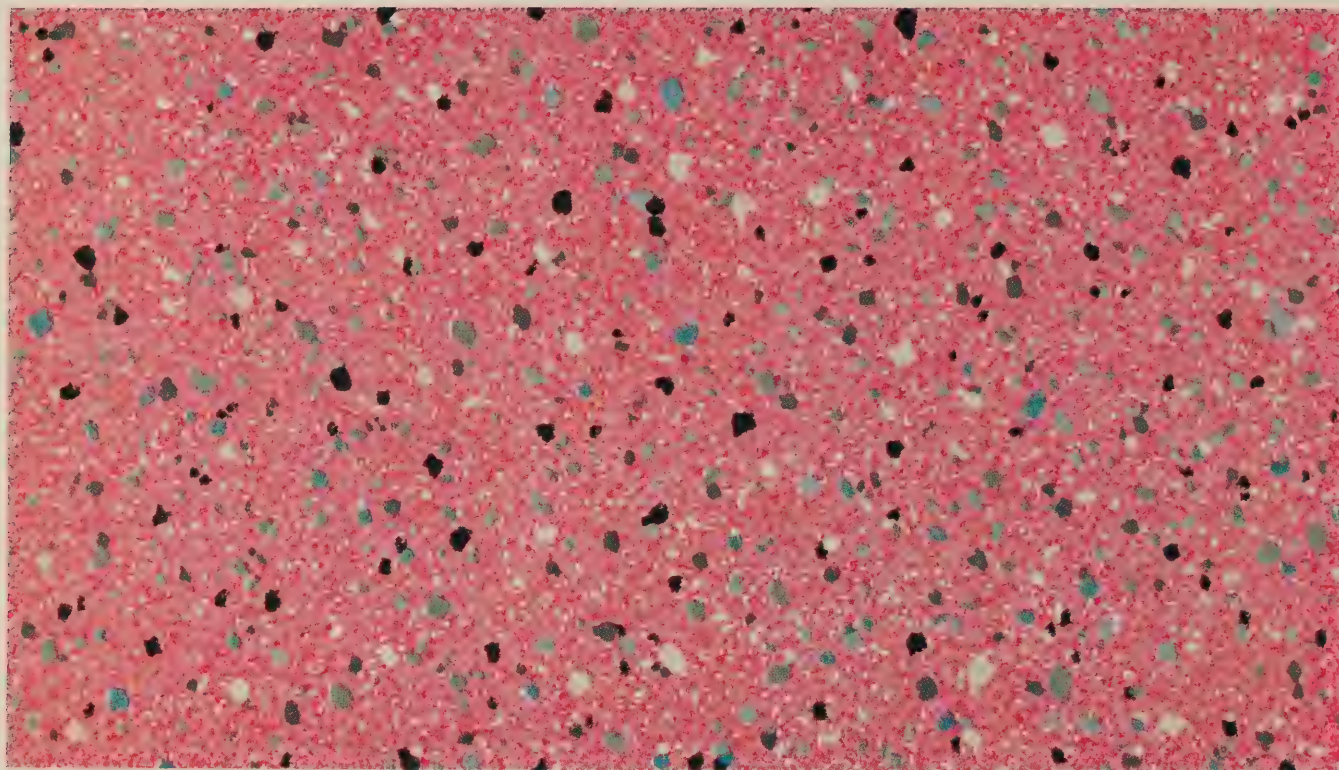


Approximately 1/4 actual size

Verde Gray No. 5016
Standard Gauge

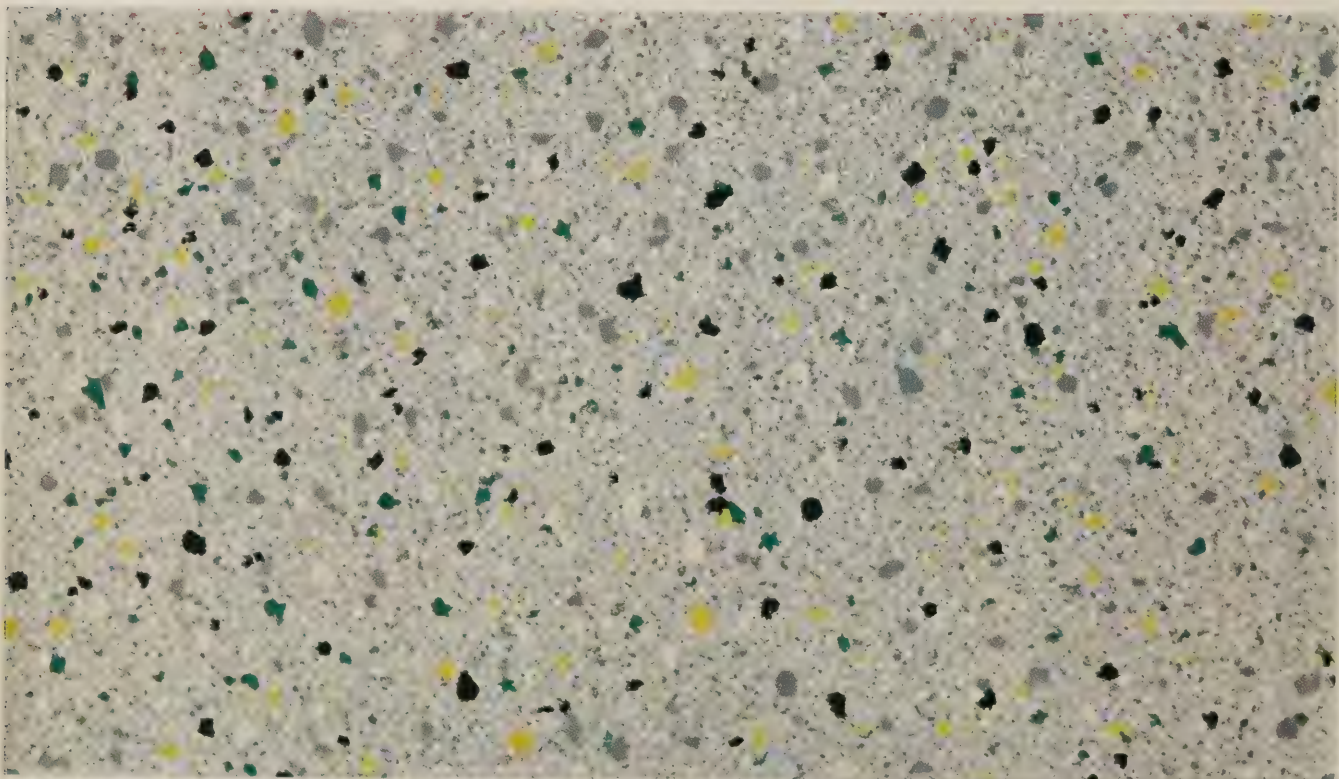
Armstrong
SPATTER LINOLEUM

2 yards wide



Roseta Pink No. 5017
Standard Gauge

Approximately 1/4 actual size

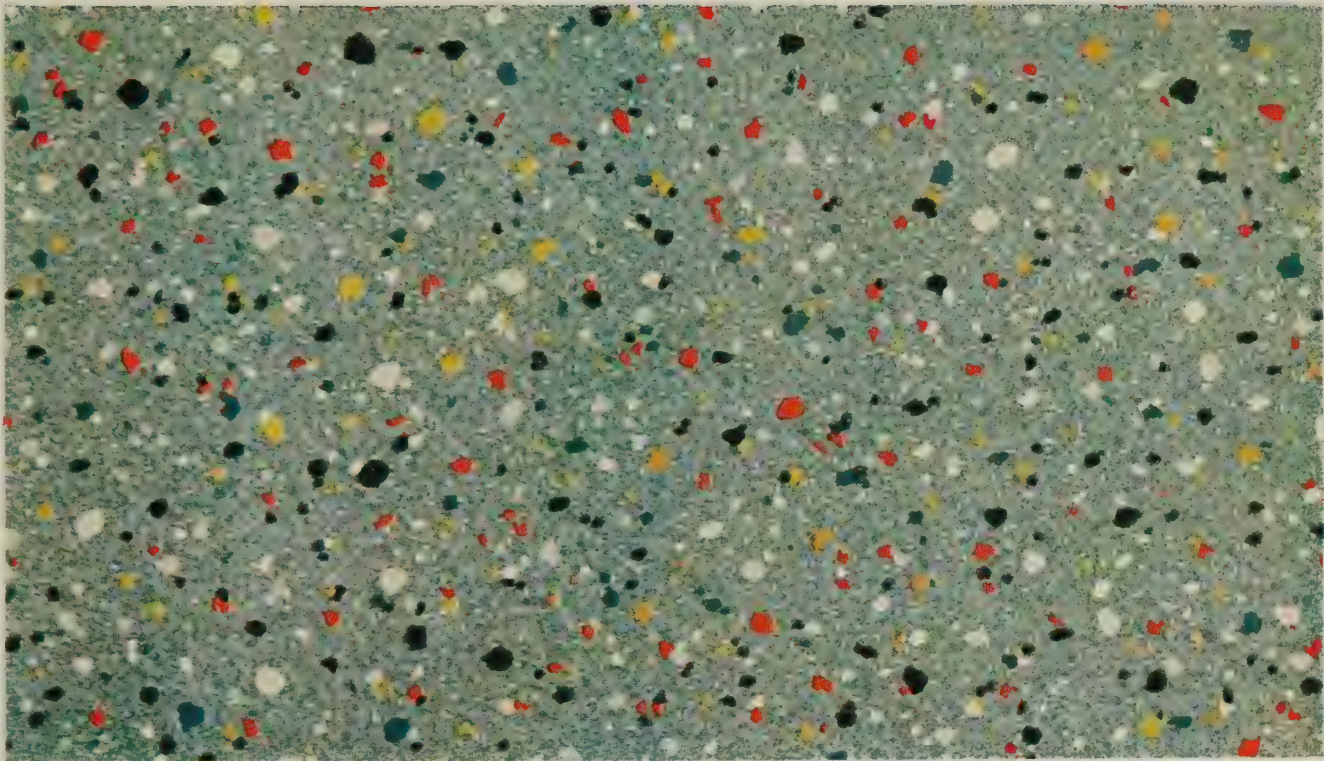


Amarillo Gray No. 5018
Standard Gauge

Approximately 1/4 actual size

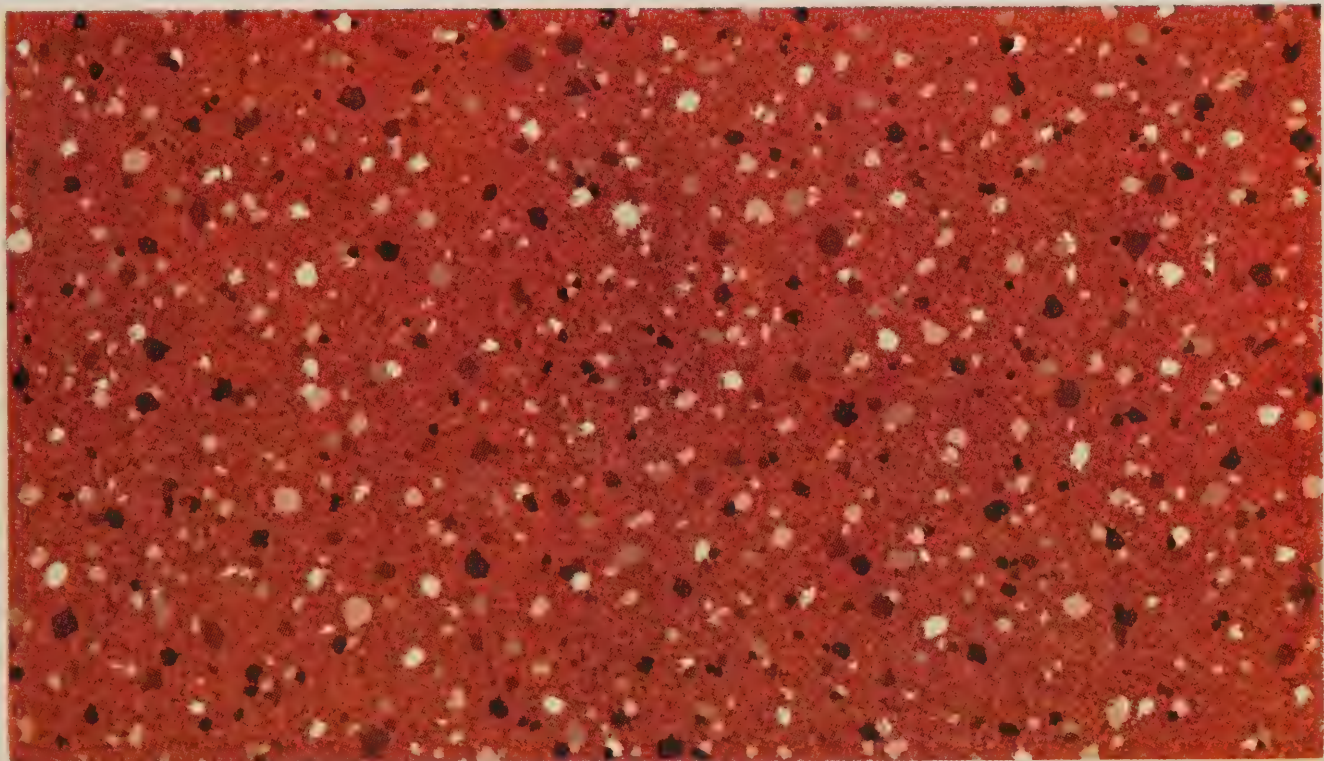
Armstrong
SPATTER LINOLEUM

2 yards wide



Approximately 1/4 actual size

Malaga Green No. 5019
Standard Gauge

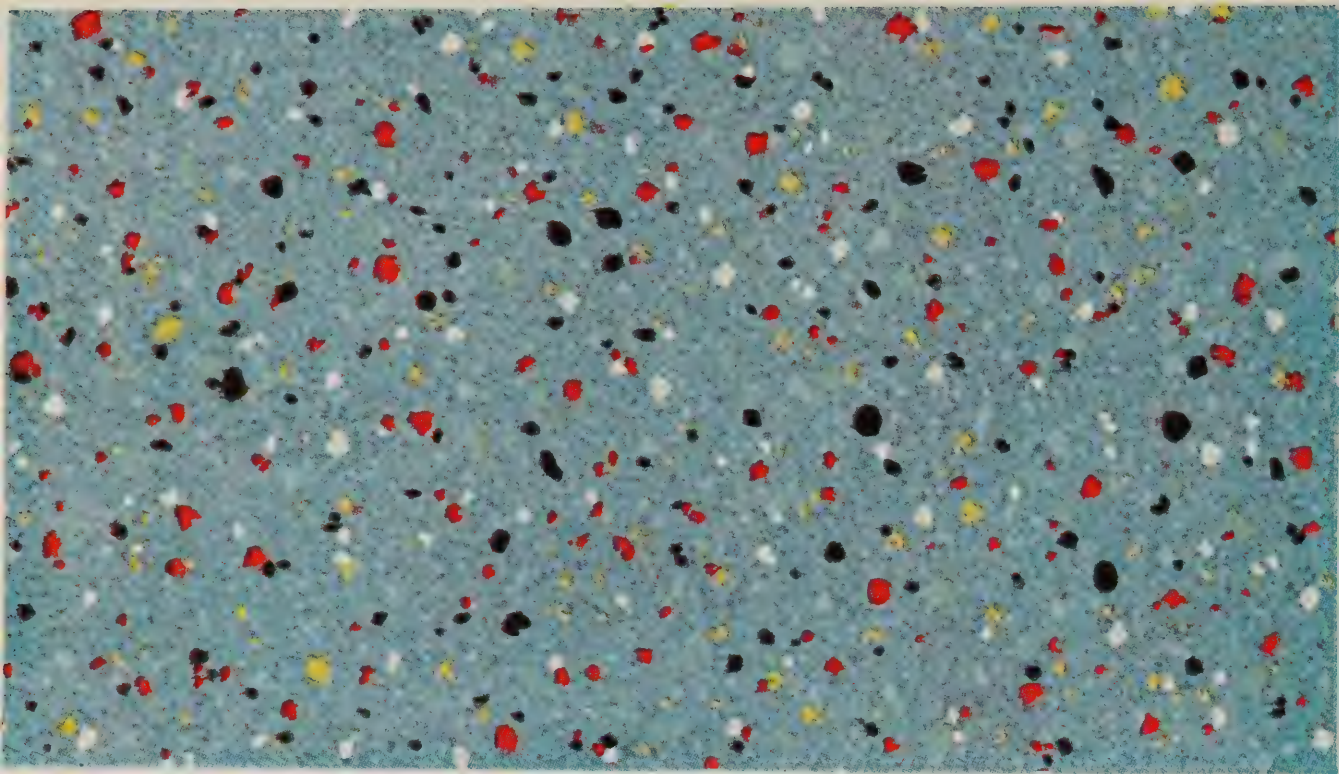


Approximately 1/4 actual size

Morocco Red No. 5020
Standard Gauge

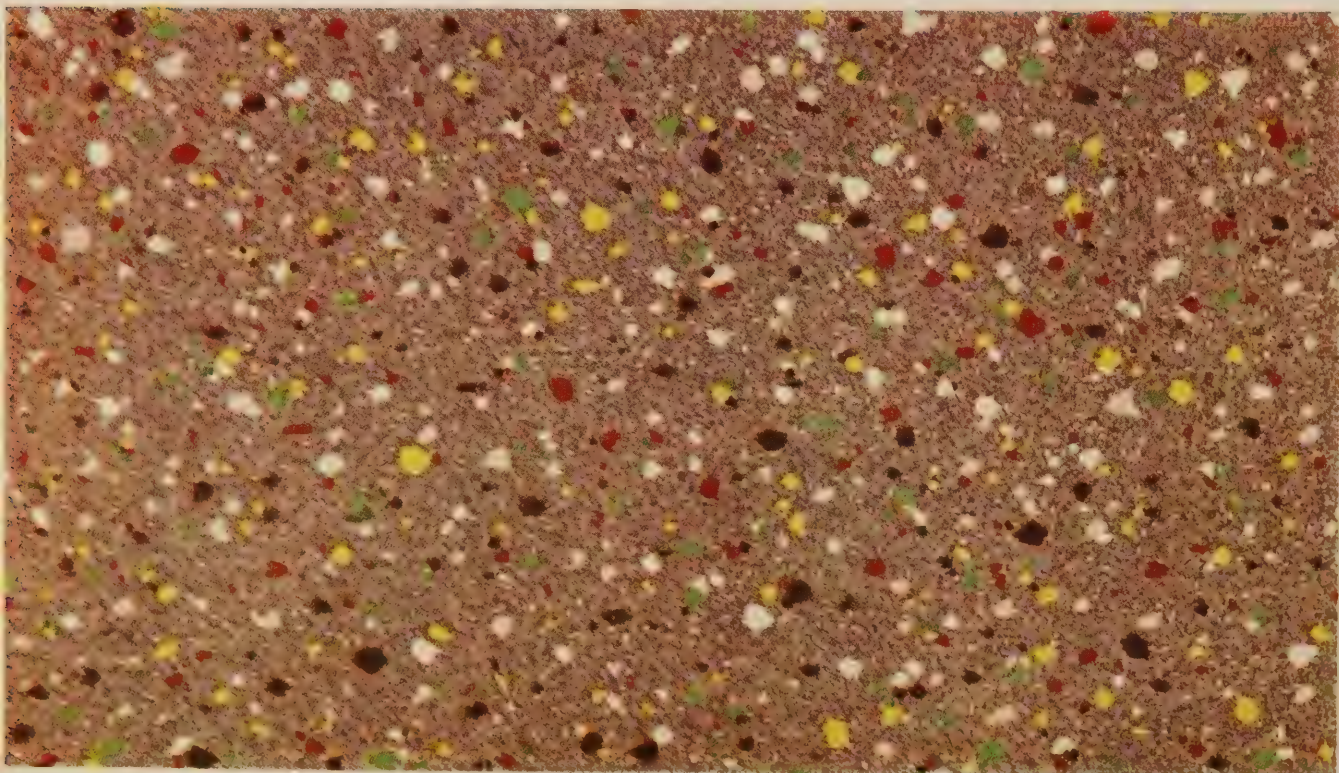
Armstrong
SPATTER LINOLEUM

2 yards wide



Valencia Blue No. 5021
Standard Gauge

Approximately 1/4 actual size

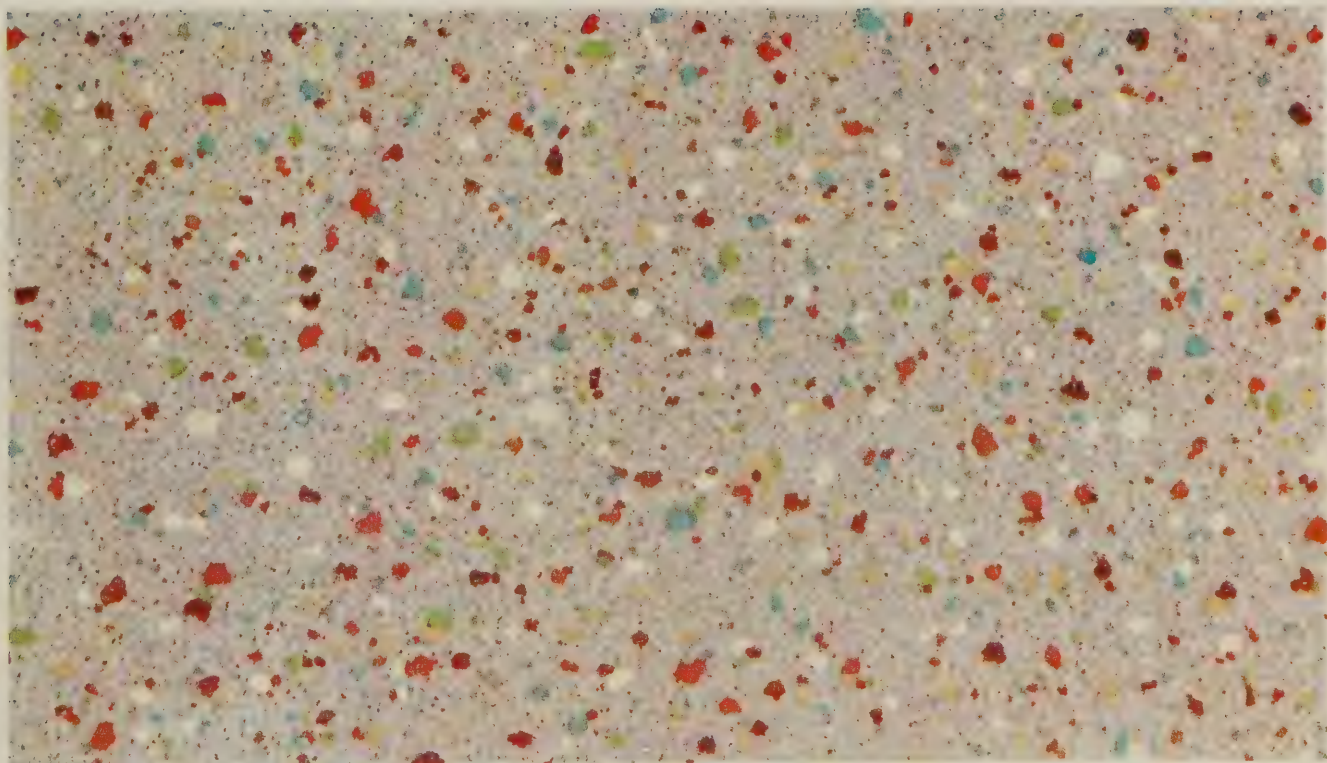


Culebra Copper No. 5022
Standard Gauge

Approximately 1/4 actual size

Armstrong
SPATTER LINOLEUM

2 yards wide



Approximately 1/4 actual size

Madeira Beige No. 5023
Standard Gauge



Armstrong Spatter Linoleum is a beautiful floor in any room. Special floor effects are easily achieved by com-

bining two or more Spatter styles, or with custom styled insets and Linostrips of Plain Linoleum.



Approximately 1/4 actual size

Armstrong

CRAFTLINE INLAID LINOLEUM

No. 5100

Standard Gauge

2 yards wide



Approximately 1/4 actual size

Armstrong
CRAFTLINE INLAID LINOLEUM
No. 5101
Standard Gauge
2 yards wide



Approximately 1/4 actual size

Armstrong

CRAFTLINE INLAID LINOLEUM

No. 5102

Standard Gauge

2 yards wide



Approximately 1/4 actual size

Armstrong
CRAFTLINE INLAID LINOLEUM
No. 5110
Standard Gauge
2 yards wide



Approximately 1/4 actual size

Armstrong

CRAFTLINE INLAID LINOLEUM

No. 5111

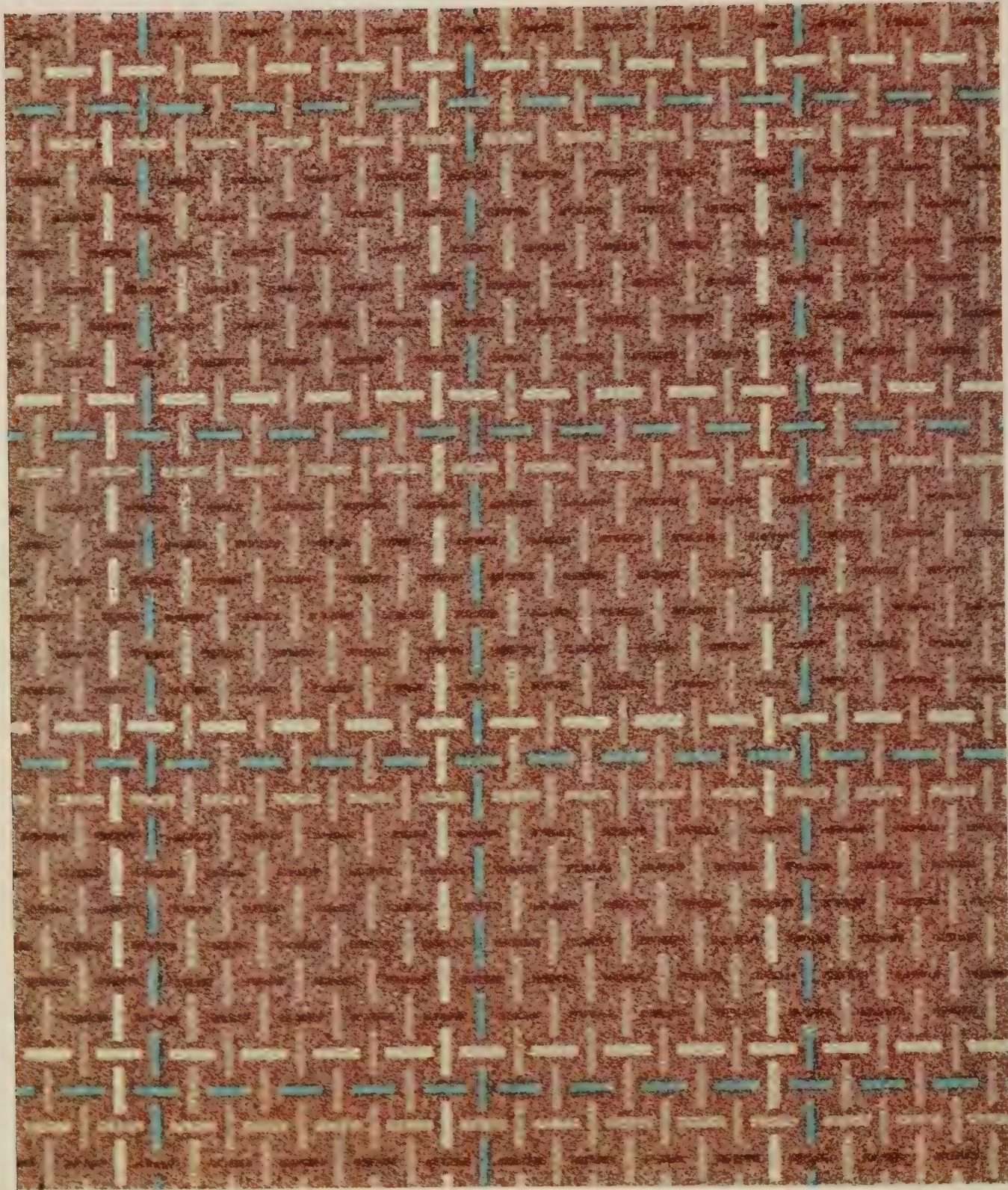
Standard Gauge

2 yards wide



Approximately 1/4 actual size

Armstrong
CRAFTLINE INLAID LINOLEUM
No. 5112
Standard Gauge
2 yards wide



Approximately 1/4 actual size

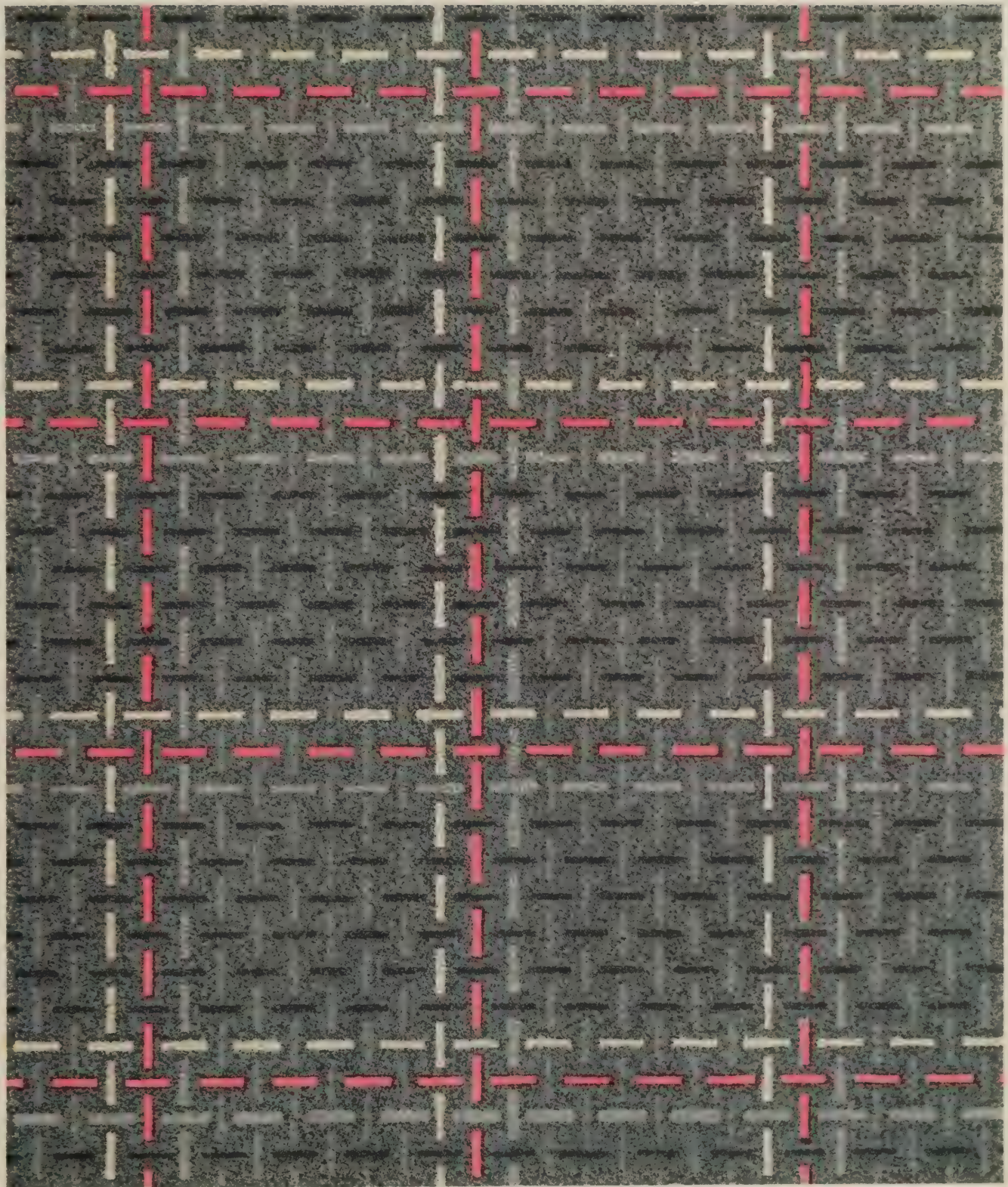
Armstrong

CRAFTLINE INLAID LINOLEUM

No. 5120

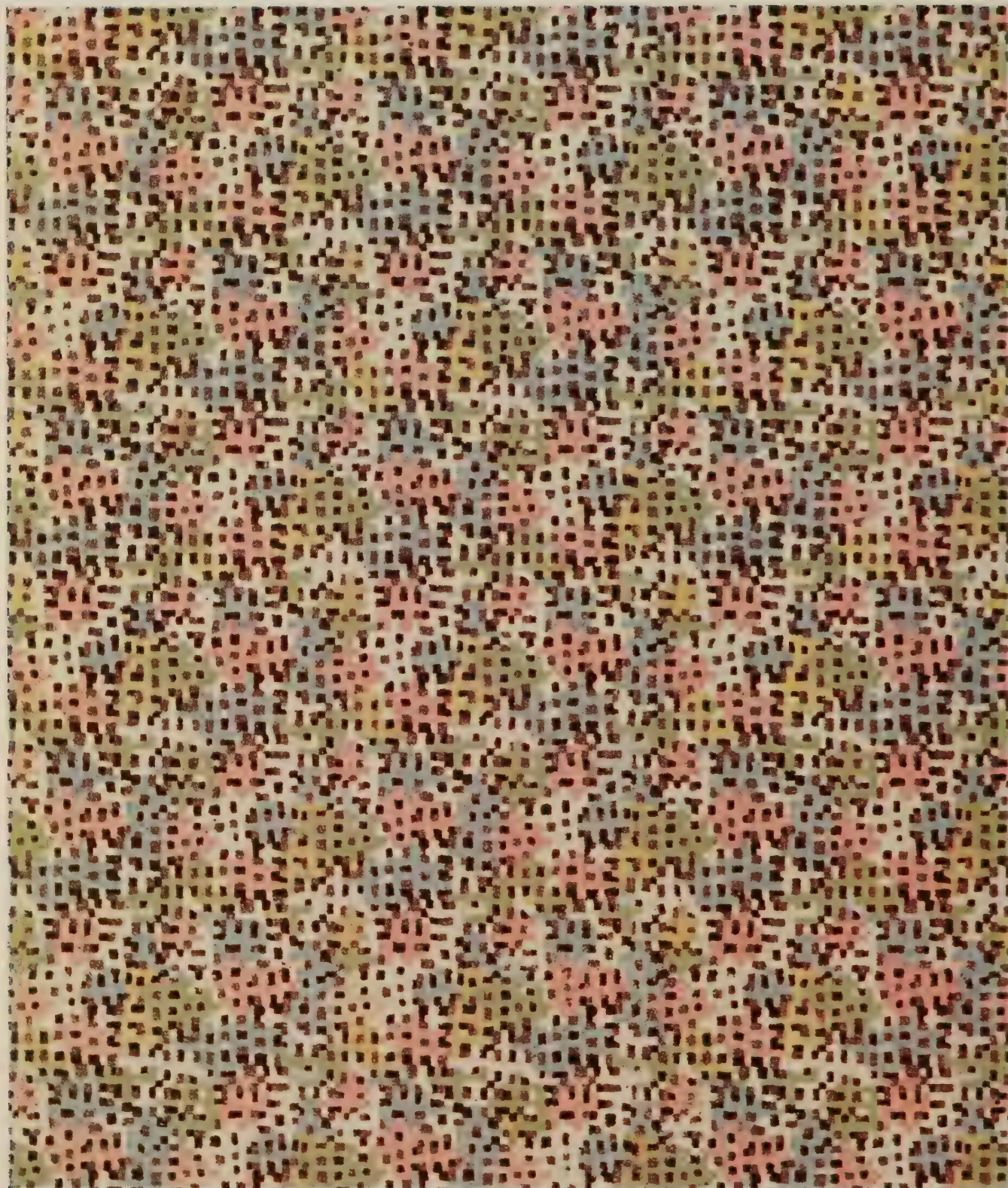
Standard Gauge

2 yards wide



Approximately 1/4 actual size

Armstrong
CRAFTLINE INLAID LINOLEUM
No. 5121
Standard Gauge
2 yards wide



Approximately 1/4 actual size

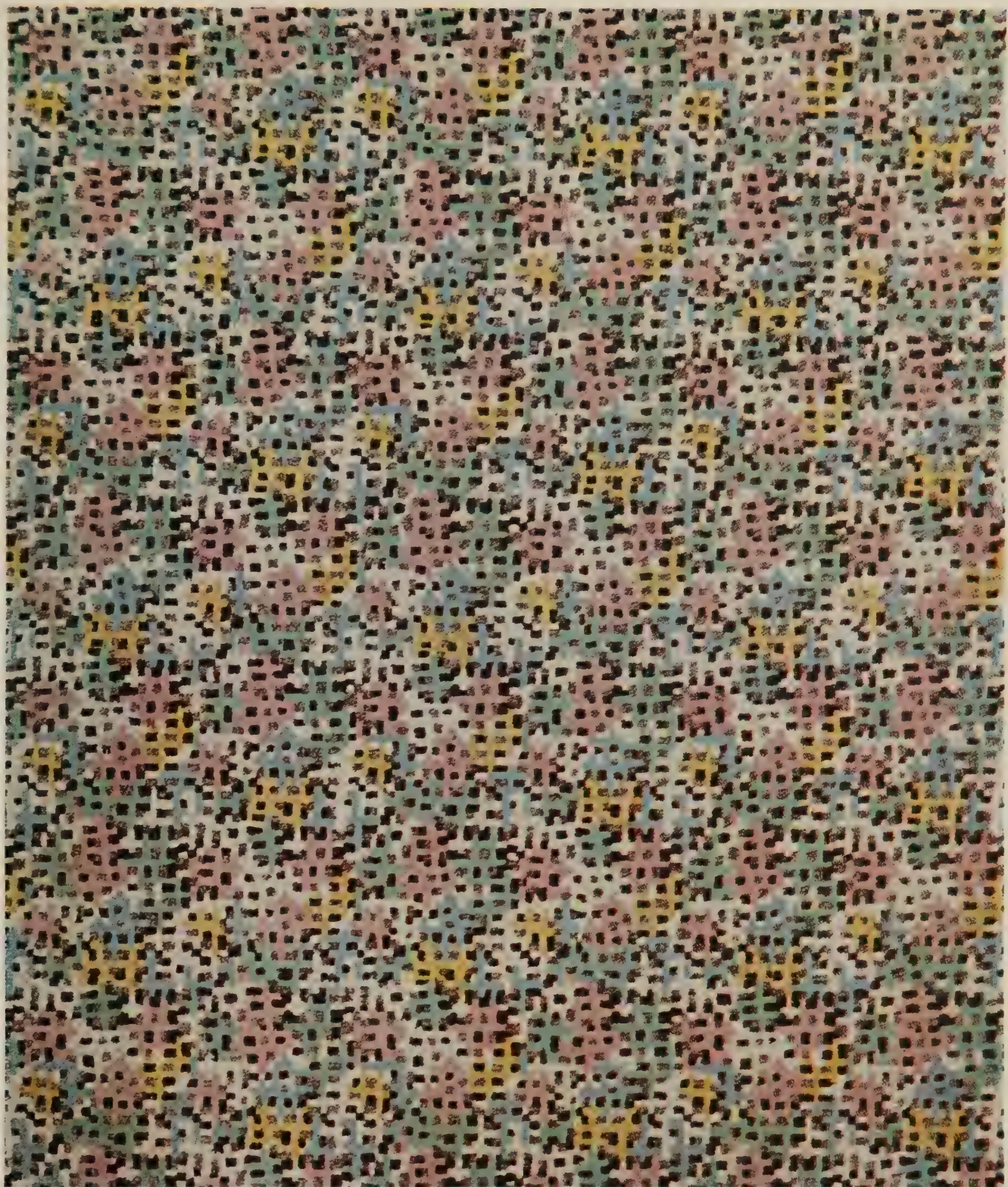
Armstrong

CRAFTLINE INLAID LINOLEUM

No. 5130

Standard Gauge

2 yards wide



Approximately 1/4 actual size

Armstrong
CRAFTLINE INLAID LINOLEUM
No. 5131
Standard Gauge
2 yards wide



Approximately 1/4 actual size

Armstrong

EMBOSSED INLAID LINOLEUM

No. 5300

Standard Gauge

2 yards wide



Approximately 1/4 actual size

Armstrong
EMBOSSD INLAID LINOLEUM
No. 5302
Standard Gauge
2 yards wide



Approximately 1/4 actual size

Armstrong

EMBOSSSED INLAID LINOLEUM

No. 5310

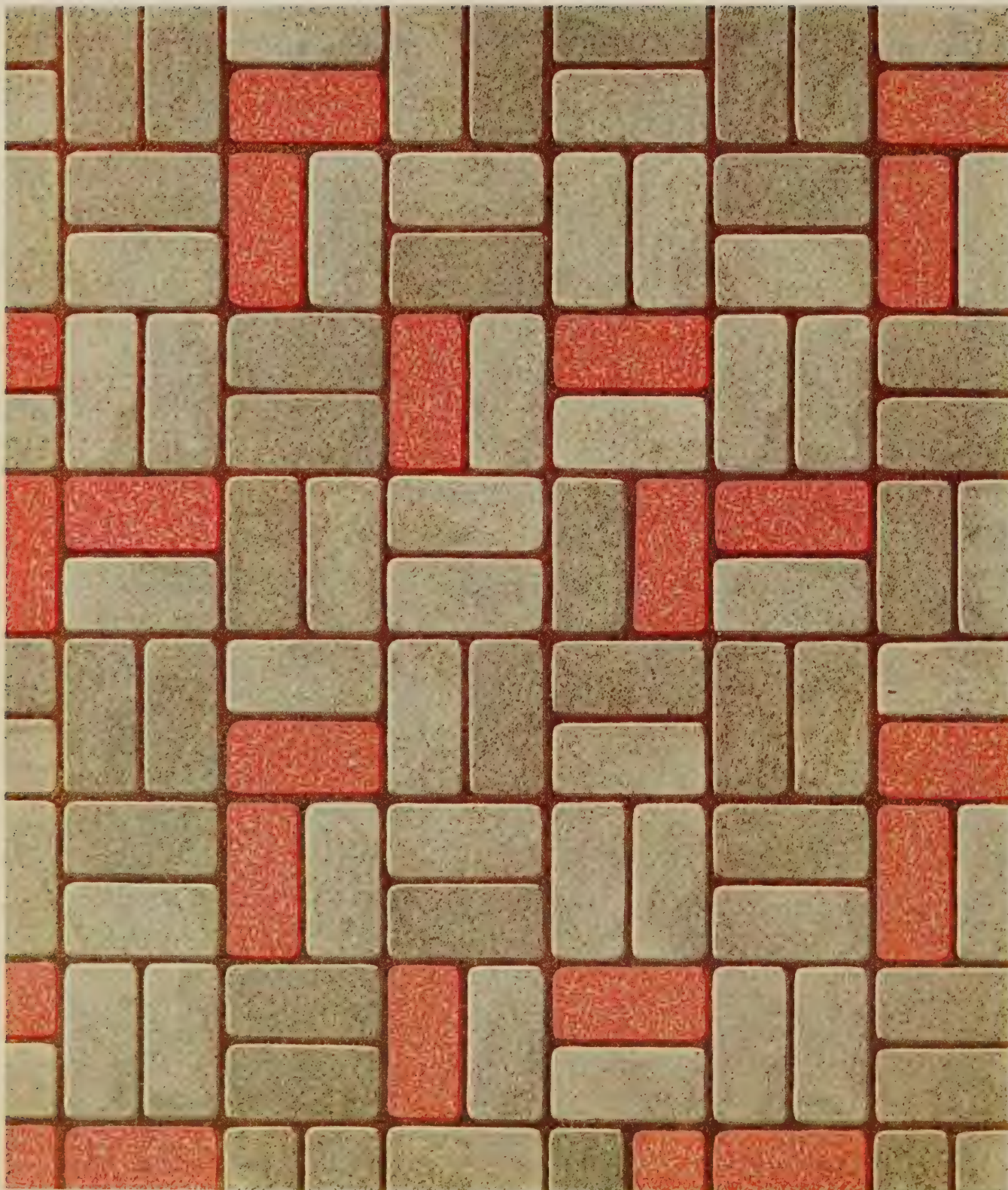
Standard Gauge

2 yards wide



Approximately 1/4 actual size

Armstrong
EMBOSSSED INLAID LINOLEUM
No. 5311
Standard Gauge
2 yards wide



Approximately 1/4 actual size

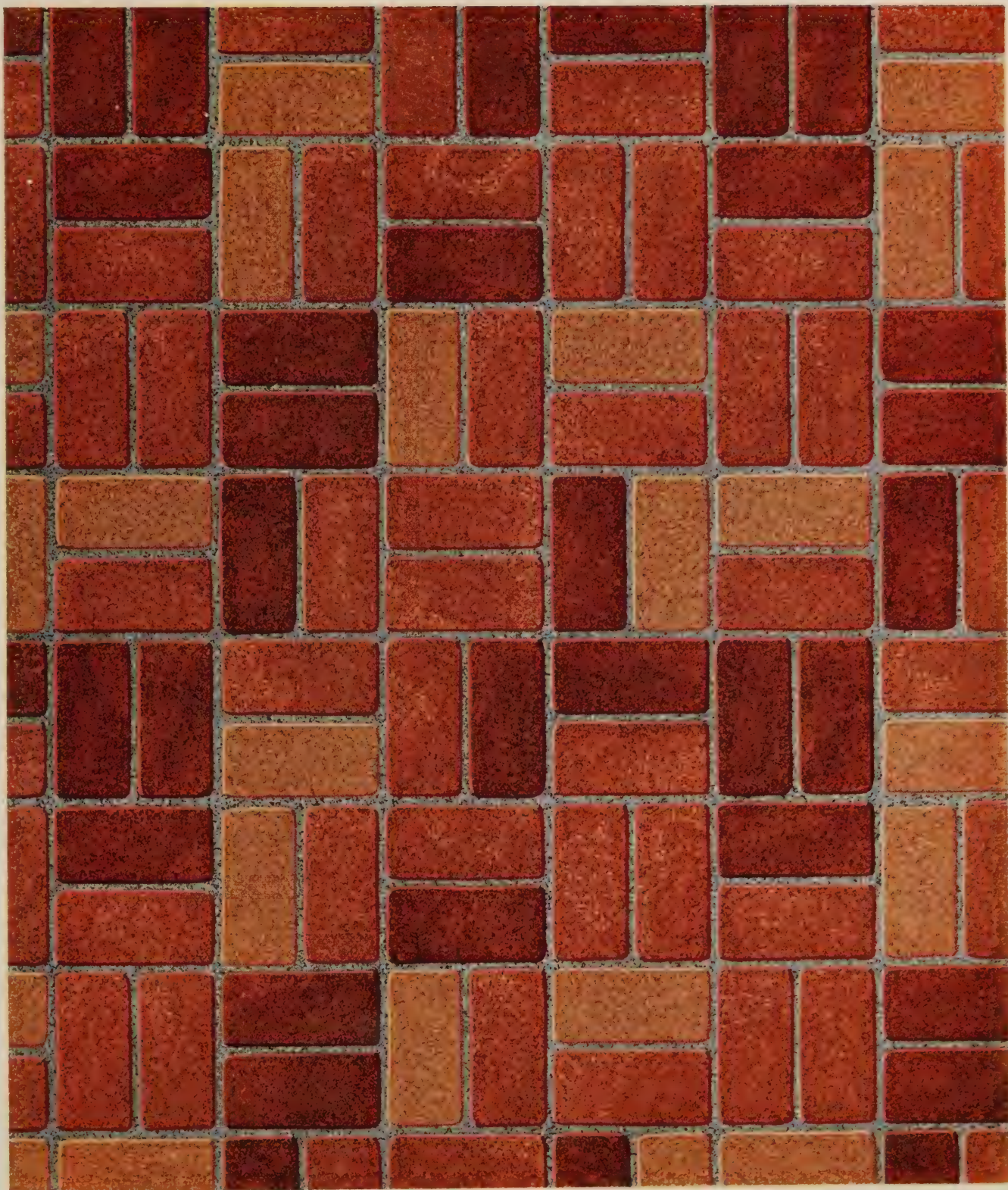
Armstrong

EMBOSSD INLAID LINOLEUM

No. 5320

Standard Gauge

2 yards wide



Approximately 1/4 actual size

Armstrong
EMBOSSSED INLAID LINOLEUM
No. 5321
Standard Gauge
2 yards wide



Approximately 1/4 actual size

Armstrong

EMBOSSD INLAID LINOLEUM

No. 5322

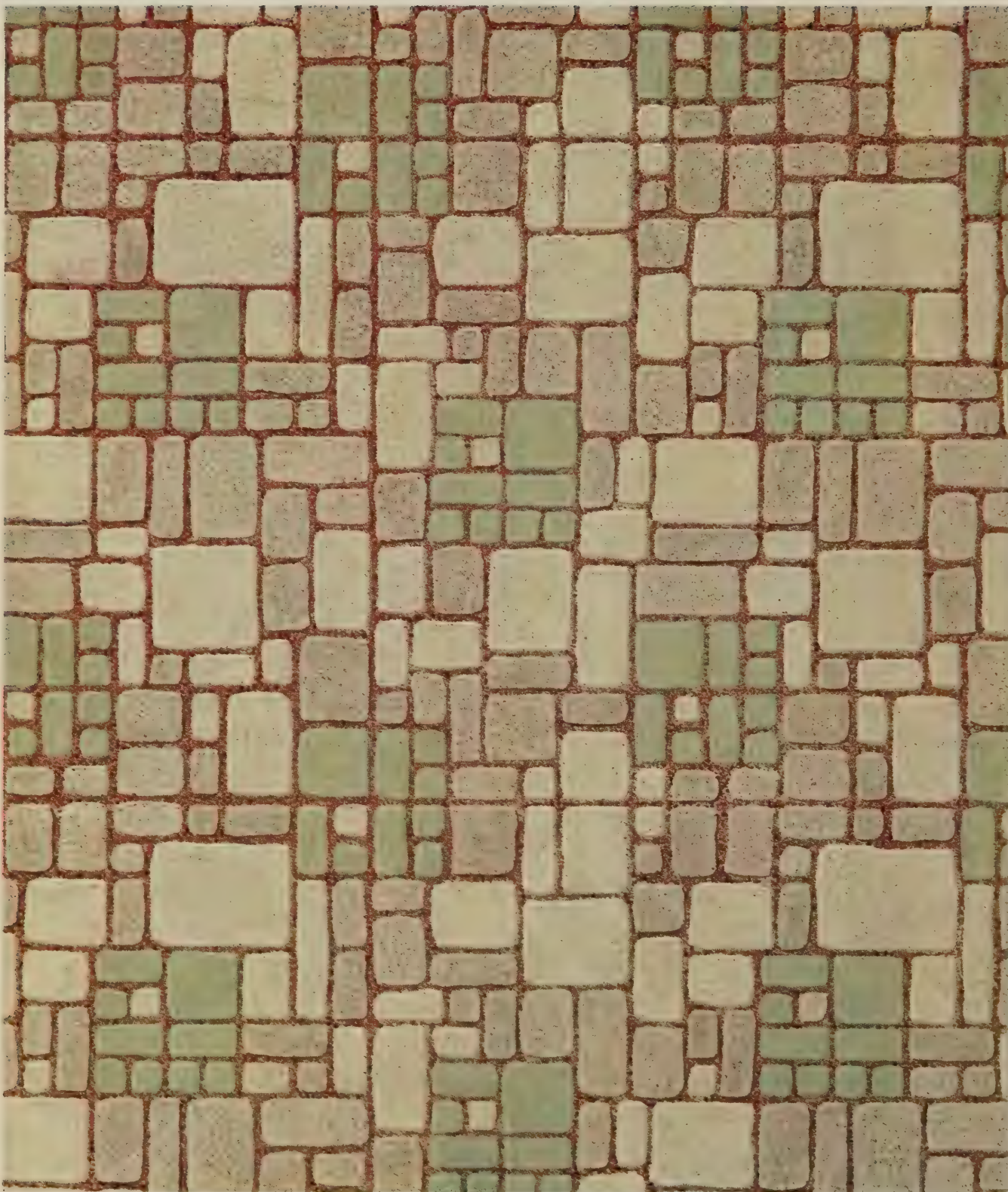
Standard Gauge

2 yards wide



Approximately 1/4 actual size

Armstrong
EMBOSSD INLAID LINOLEUM
No. 5330
Standard Gauge
 2 yards wide



Approximately 1/4 actual size

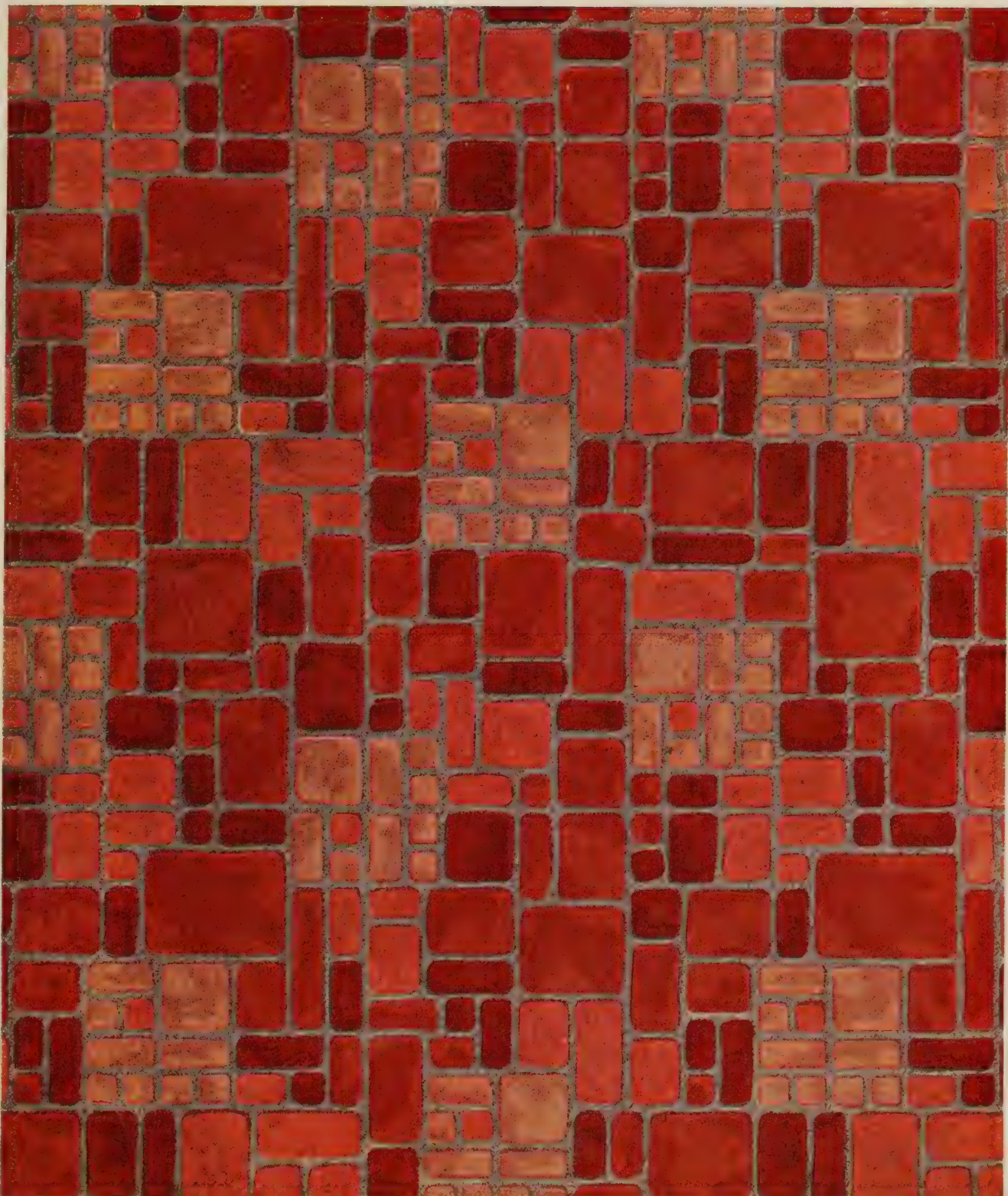
Armstrong

EMBOSSD INLAID LINOLEUM

No. 5351

Standard Gauge

2 yards wide



Approximately 1/4 actual size

Armstrong
EMBOSSD INLAID LINOLEUM
No. 5352
Standard Gauge
2 yards wide



Approximately 1/4 actual size

Armstrong

EMBOSSD INLAID LINOLEUM

No. 5390

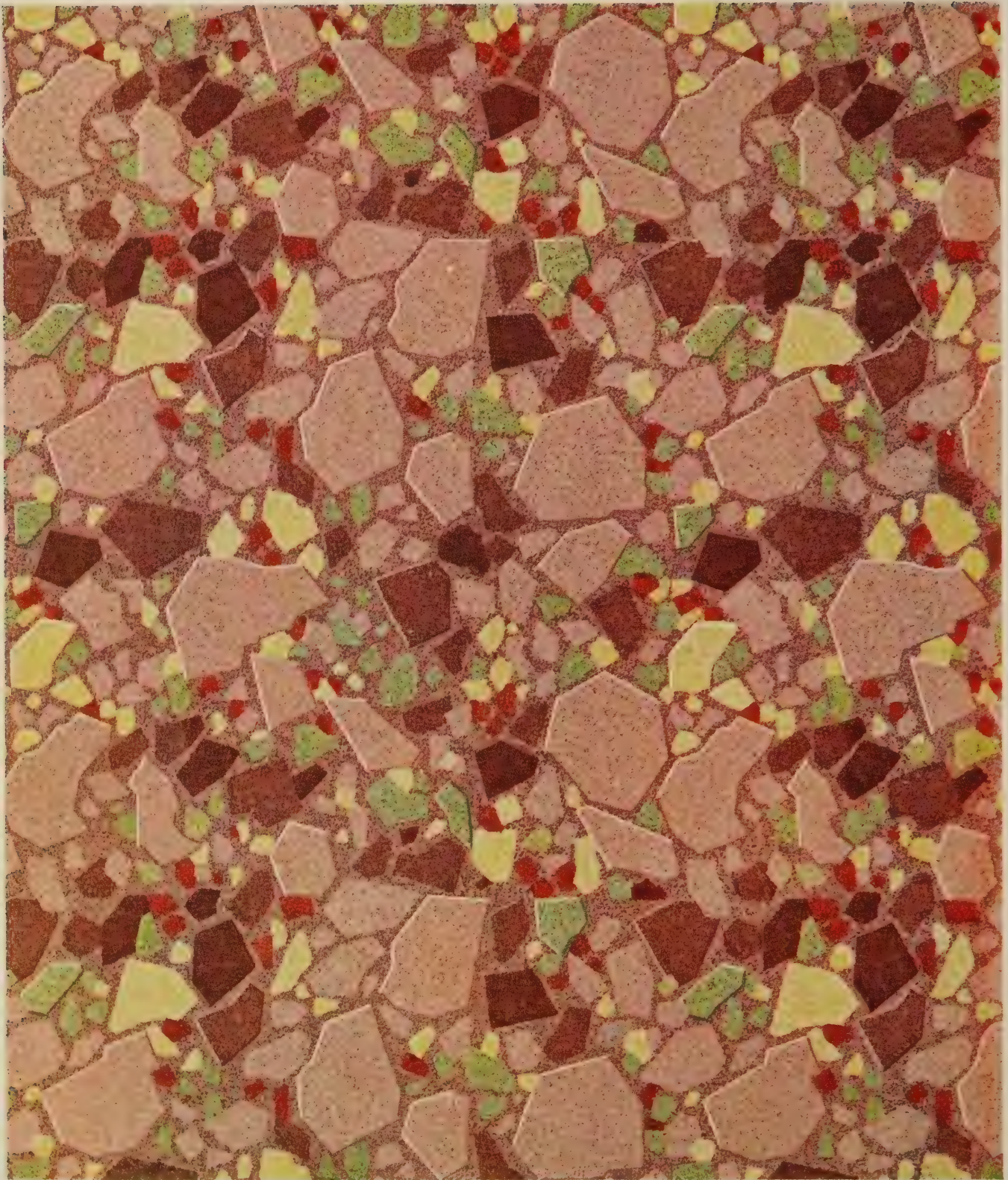
Standard Gauge

2 yards wide



Approximately 1/4 actual size

Armstrong
EMBOSSD INLAID LINOLEUM
No. 5392
Standard Gauge
2 yards wide



Approximately 1/4 actual size

Armstrong

EMBOSSD INLAID LINOLEUM

No. 5393

Standard Gauge

2 yards wide



Approximately 1/4 actual size

Armstrong
EMBOSSD INLAID LINOLEUM
No. 5430
Standard Gauge
2 yards wide



Approximately 1/4 actual size

Armstrong

EMBOSSD INLAID LINOLEUM

No. 5471

Standard Gauge

2 yards wide



Approximately 1/4 actual size

Carpetone Series

Armstrong
EMBOSSD INLAID LINOLEUM
No. 5790
Standard Gauge
2 yards wide



Approximately 1/4 actual size

Armstrong

EMBOSSED INLAID LINOLEUM

No. 5792

Standard Gauge

2 yards wide

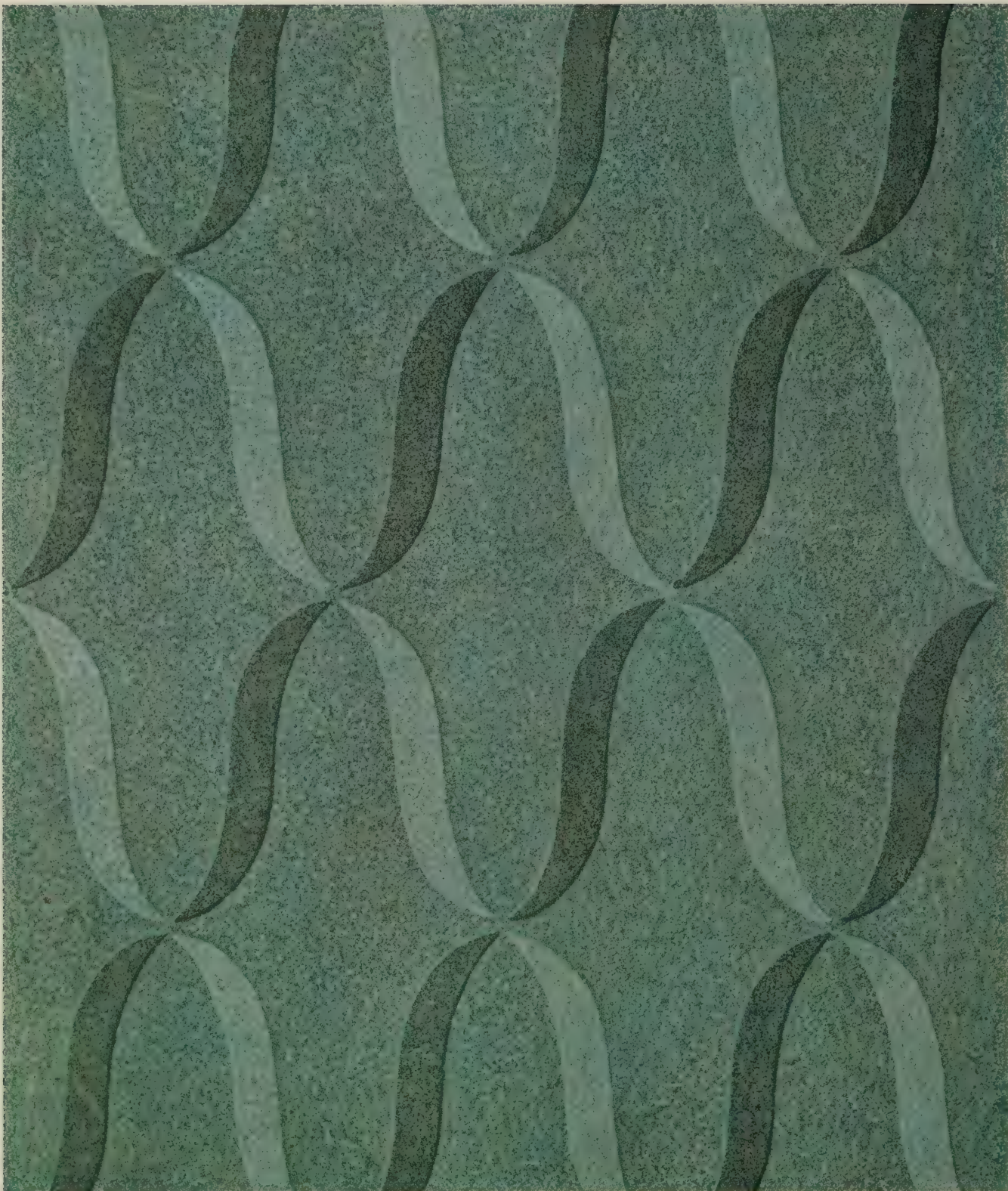
Carpetone Series



Approximately 1/4 actual size

Carpetone Series

Armstrong
EMBOSSD INLAID LINOLEUM
No. 5793
Standard Gauge
2 yards wide



Approximately 1/4 actual size

Armstrong

EMBOSSD INLAID LINOLEUM

No. 5822

Standard Gauge

2 yards wide



Approximately 1/4 actual size

Armstrong

EMBOSSSED INLAID LINOLEUM

No. 5823

Standard Gauge

2 yards wide



Approximately 1/4 actual size

Armstrong

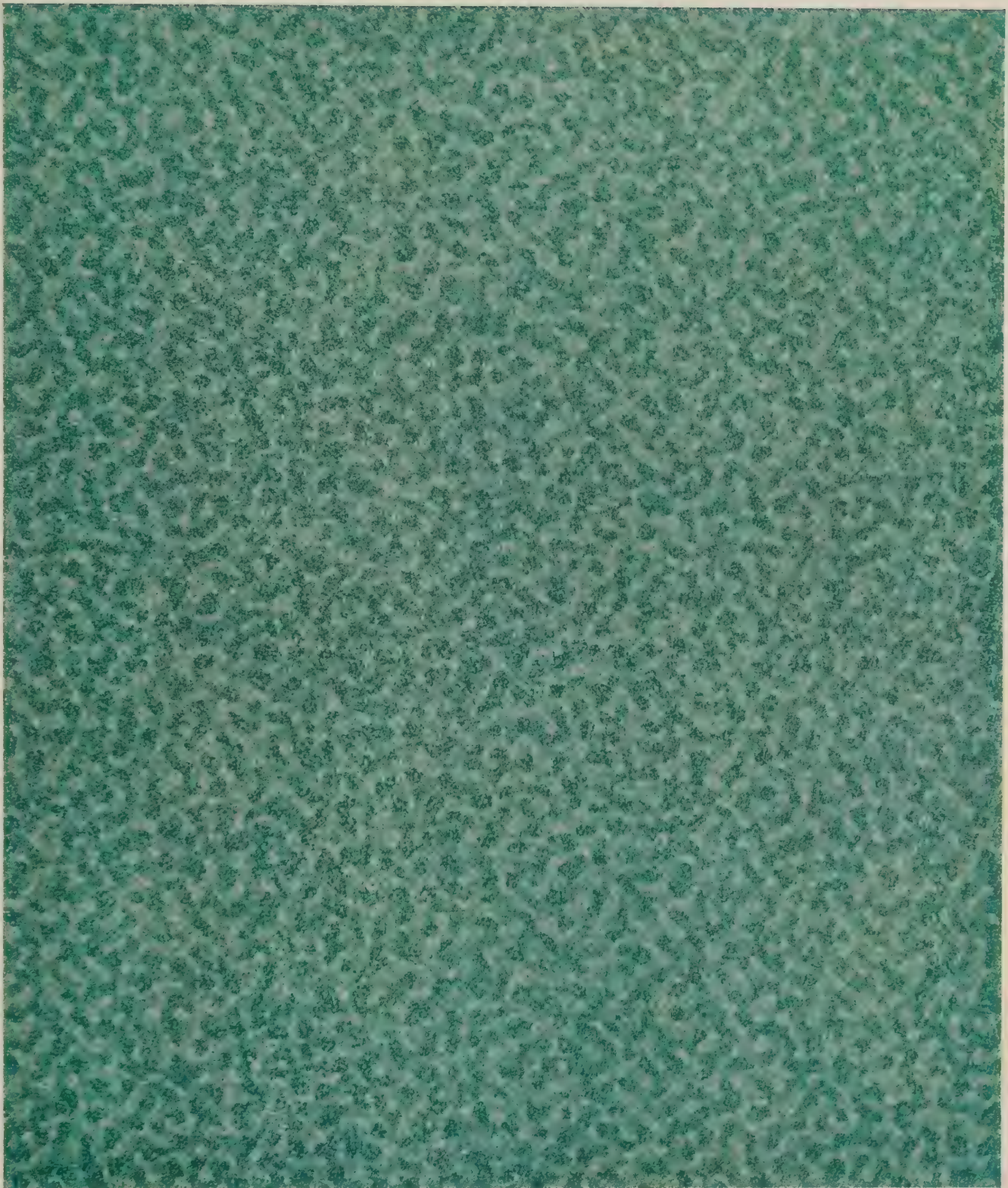
EMBOSSSED INLAID LINOLEUM

No. 5860

Standard Gauge

2 yards wide

Carpetone Series



Approximately 1/4 actual size

Carpetone Series

Armstrong

EMBOSSED INLAID LINOLEUM

No. 5861

Standard Gauge

2 yards wide



Approximately 1/4 actual size

Armstrong

STRAIGHT LINE INLAID LINOLEUM

No. 1610

Standard Gauge

2 yards wide

Colortone



Approximately 1/4 actual size

Colortone

Armstrong
STRAIGHT LINE INLAID LINOLEUM
No. 1611
Standard Gauge
2 yards wide



Approximately 1/4 actual size

Armstrong

STRAIGHT LINE INLAID LINOLEUM

No. 1612

Standard Gauge

2 yards wide

Colortone



Approximately 1/4 actual size

Colortone

Armstrong
STRAIGHT LINE INLAID LINOLEUM
No. 1613
Standard Gauge
2 yards wide



Approximately 1/4 actual size

Armstrong

STRAIGHT LINE INLAID LINOLEUM

No. 1614

Standard Gauge

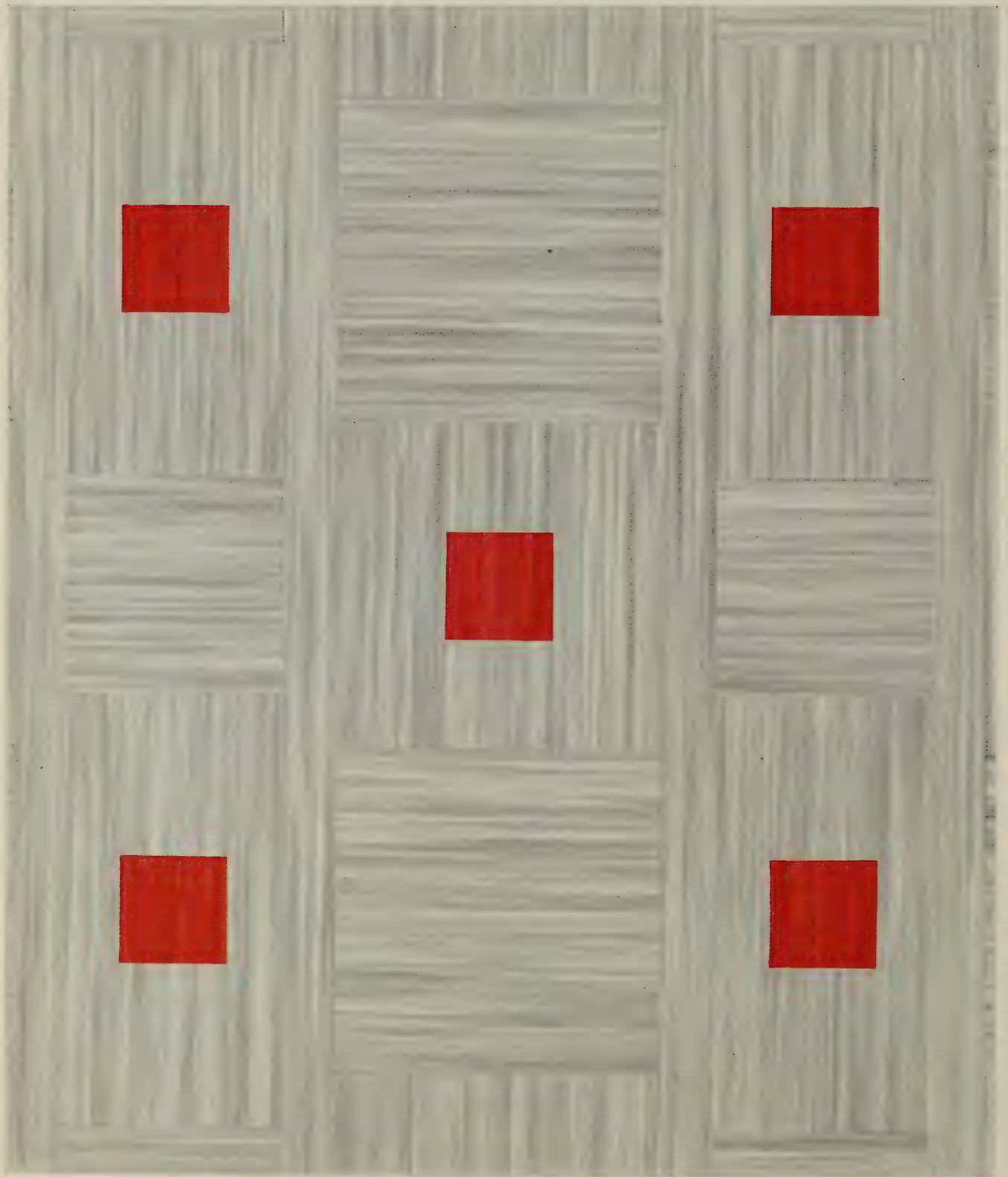
2 yards wide

Colortone



Size of Blocks—9" x 9"

Armstrong
STRAIGHT LINE INLAID LINOLEUM
No. 1690
Standard Gauge
2 yards wide



Approximately 1/4 actual size

Armstrong

STRAIGHT LINE INLAID LINOLEUM

No. 1710

Standard Gauge

2 yards wide

Colortone



Approximately 1/4 actual size

Colortone

Armstrong
STRAIGHT LINE INLAID LINOLEUM
No. 1711
Standard Gauge
2 yards wide



Approximately 1/4 actual size

Armstrong

STRAIGHT LINE INLAID LINOLEUM

No. 1712

Standard Gauge

2 yards wide

Colortone



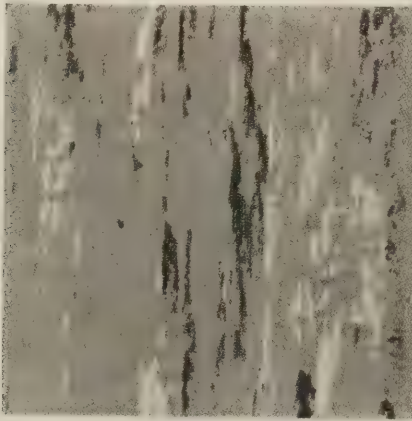
Armstrong *Resilient Tiles*



ARMSTRONG RESILIENT TILES

... designed for every flooring requirement

The eight basic types of Armstrong Resilient Tiles provide an excellent choice of flooring materials to meet every need, every taste, and every pocketbook. Cost and appearance are important considerations, but there are other factors that should be taken into consideration. The amount of wear the floor will receive, the type of subfloor over which it will be installed, ease of maintenance, even the degree of resilience are all requirements that should be considered before selection is made. Listed on these pages, are the important characteristics of the different types of resilient tiles in the Armstrong Line. The differences between the various types should be evaluated carefully to help assure a choice which will result in the most satisfactory installation and a sound flooring investment.



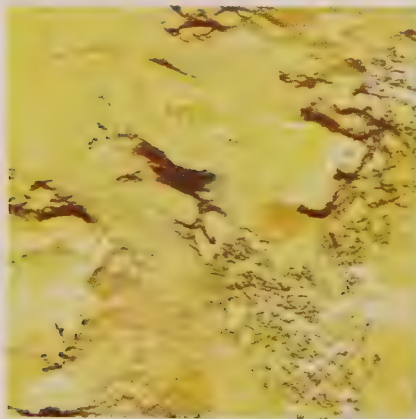
ASPHALT TILE

Developed especially for basements and grade-level concrete floors. Low cost and long wearing.



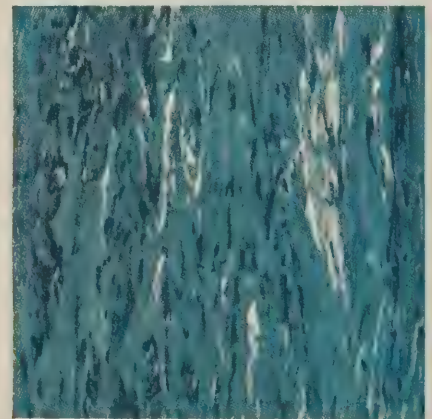
FLAGSTONE ASPHALT TILE

The only true patterned asphalt tile, an Armstrong exclusive. Durable, resistant to alkaline moisture.



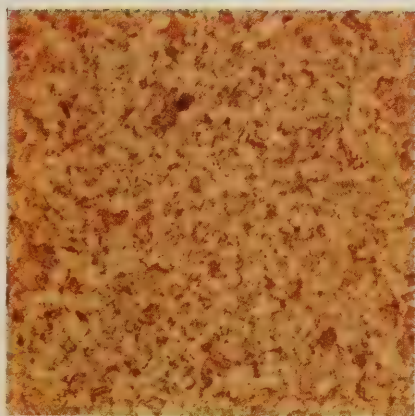
LINOTILE

Unmatched for durability and ease of maintenance. High resistance to indenting. An Armstrong exclusive.



RUBBER TILE

Combines exceptional durability and outstanding beauty. Mirror-like plate finish. Quiet, comfortable.



CORK TILE

Most resilient, quietest underfoot. Handsome texture; rich, warm appearance. Creates air of refinement.



CUSTOM CORLON TILE

Quality vinyl plastic, the ultimate in flooring luxury. Extremely durable, resistant to grease, solvents.



EXCELON TILE

Economical plastic-asbestos flooring. Resistant to alkaline moisture, oil, grease, household chemicals.



LINOLEUM TILE

Standard and Light Gauge Linoleum in tile form. Inexpensive. Easy for home mechanics to use.

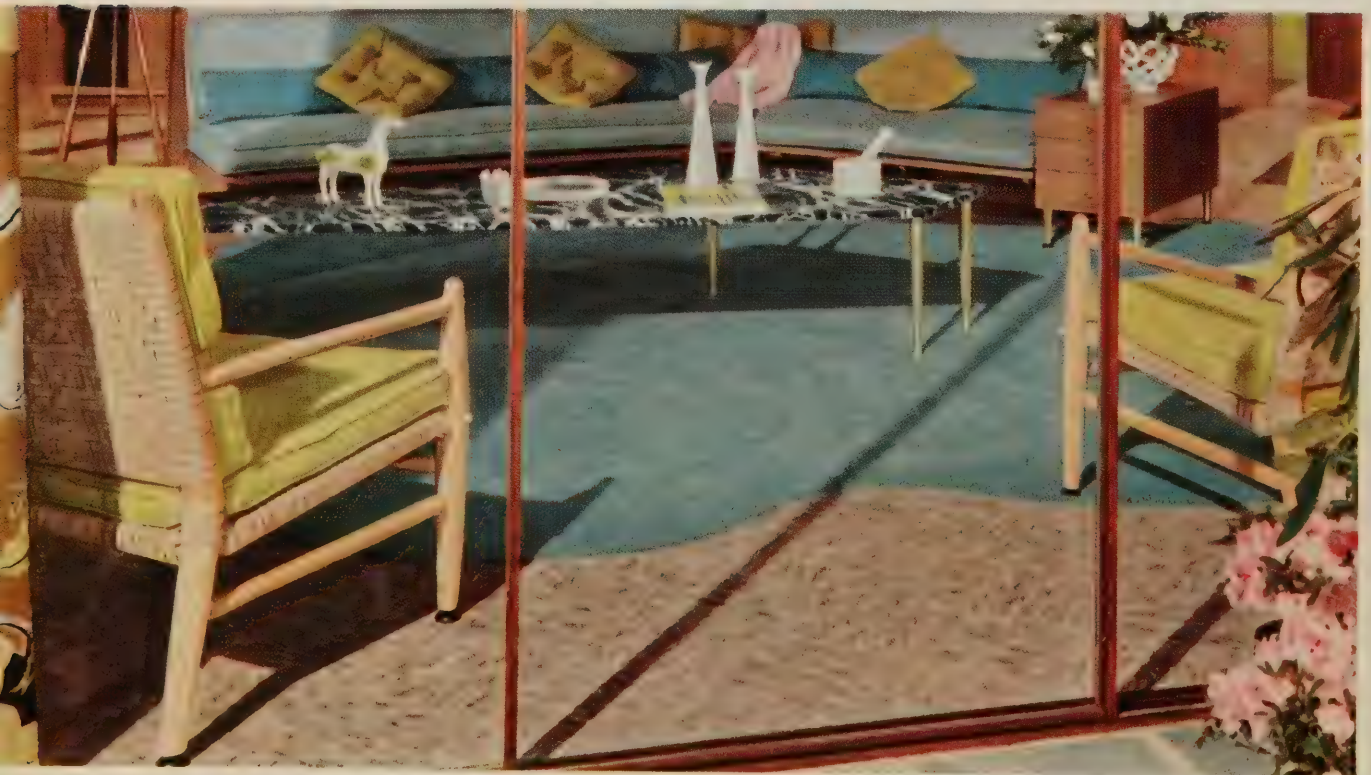


ECONOMY Armstrong Excelon, Asphalt, and Linoleum Tiles offer qualities of beauty and service not usually found in low-cost floors.

Whatever Governs the Selection . . . Armstrong Quality Is Assured

Each of the various types of Armstrong Resilient Tiles has been specially developed to meet particular flooring requirements. But, regardless of the major characteristics of the individual products, each one also offers other qualities that make it a top flooring value. All of the resilient tiles reflect the combined skills of Armstrong research scientists, stylists, and manufacturing engineers with long and thorough experience in resilient flooring. The luxury floors combine practical features that make them serviceable and easy to maintain. The heavy-duty tiles have outstanding characteristics of design and coloring that make them exceptionally attractive. Even the tiles produced to meet the needs for low-cost flooring have qualities of style and service that make them outstanding values.

LUXURY Armstrong Custom Corlon Tile is the ultimate in luxurious flooring. Suitable for installation in any type of interior and on suspended, on- or below-grade subfloors, this top-quality vinyl-plastic tile has a distinctive burl graining and exceptional brilliance of color. It's a fine floor in every respect.





DURABILITY Armstrong Linotile has the extra durability and ease of maintenance required of floors subjected to heavy traffic in offices, entrance halls, and corridors. Highly resistant to oil, grease, and furniture indenting, Linotile is well suited for kitchens and under heavy furniture and appliances.

IMPRESSIVENESS Armstrong Rubber Tile offers the unique combination of luxurious appearance, durability, and moderate cost. The bright colors are enhanced by the mirror-like plate finish. Armstrong Rubber Tile can be installed on grade-level and basement floors as well as on suspended subfloors.



There's almost no limit to the style effects in Armstrong Resilient Tiles



Armstrong Resilient Tile Floors are colorful and attractive, even when used in a single color wall to wall. They make a handsome background for rugs.



Factory-packaged designs, like Armstrong Flagstone Asphalt Tile, offer custom styling at moderate cost. Flagstone asphalt tile is an Armstrong exclusive.



Custom Cork Tile is an exclusive factory-packaged styling made by Armstrong. A variety of smart effects can be created simply by alternating the colors.



Resilient Tile Floors gain added color and interest with feature strips and insets. Decorative treatments can be styled to meet any custom requirement.

REPEAT UNIT DESIGNS

Inexpensive designs for modern resilient tile floor styling

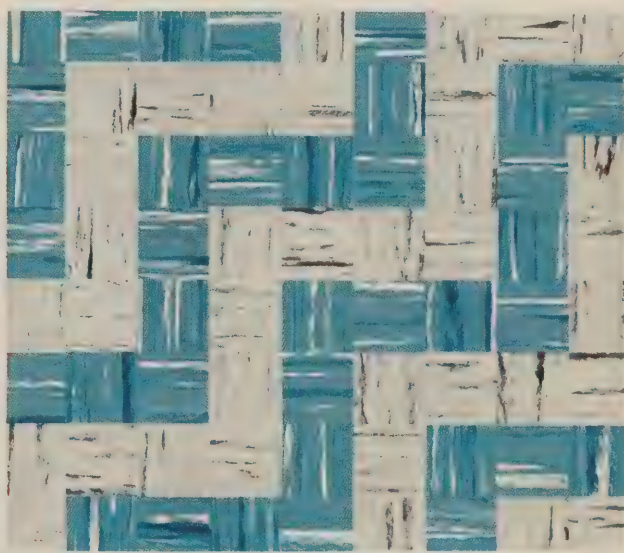
Repeat unit designs in resilient tile floors extend all the way from the simple checkerboard, composed of alternating blocks of different colors, to extremely intricate designs. The limitless possibilities of repeat unit designs assure an appropriate floor styling for almost any interior. The designs shown on this page and on pages 118-119 represent just a few. They can be made equally effective when worked out in any of the various Armstrong Resilient Tiles. Color percentages are indicated with each design.



Brown 56 %; Green 44 %



**White + 50 %; Red - 50 %
(varies with room size)**



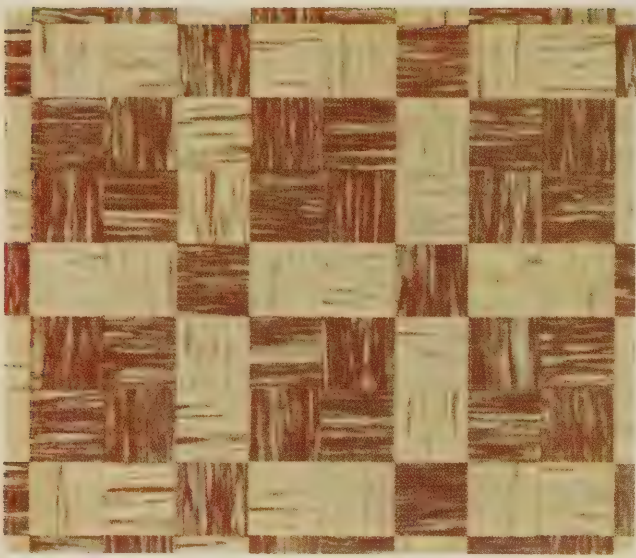
Blue 50 %; White 50 %



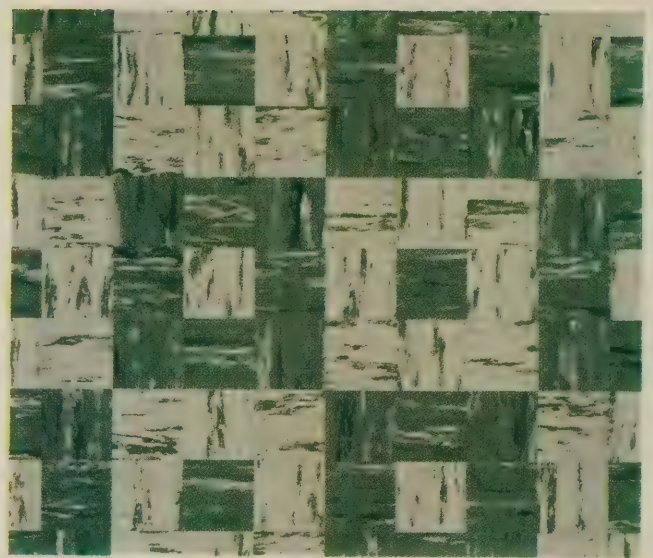
Green 56 %; Gray 44 %



Red 60 %; Gray 30 %; Black 10 %



Brown 56%; Tan 44%



Green 50%; White 50%



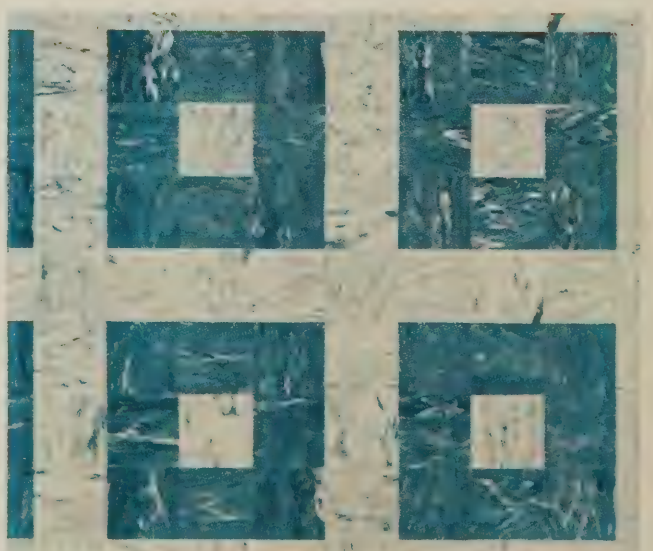
Yellow 54%; Gray 42%; Black 4%



Tan 67%; Red 33%



Green 63%; Tan 37%



Blue 50%; White 50%



Gray 50%; Black 25%; Red 25%



White 56%; Dark Green 22%; Light Green 22%



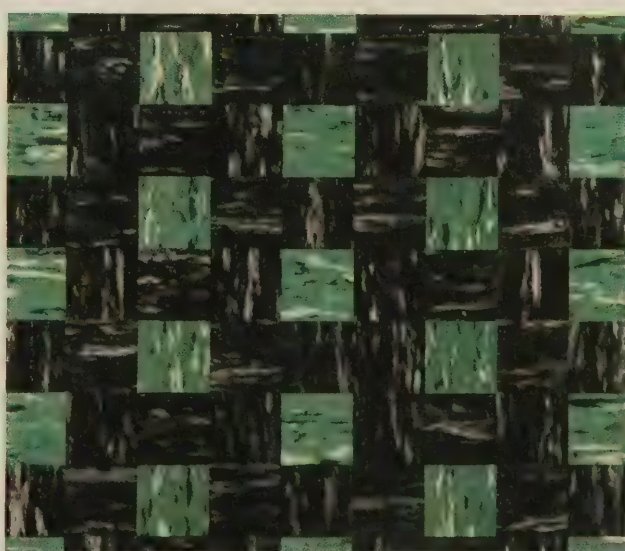
Dark Green 17%; Green 50%; White 33%



White 58%; Red 42%



Brown 53%; Tan 47%



Dark Green 75%; Light Green 25%

Armstrong

CUSTOM CORLON

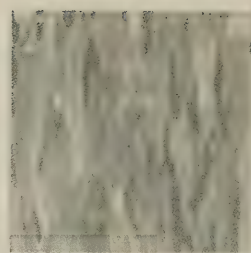
TILE

3/32" and 1/8" Gauge
6" x 6", 9" x 9", 12" x 12", 18" x 36"
For suspended, on- and below-grade floors

Armstrong Custom Corlon Tile is a luxury vinyl-plastic flooring with unexcelled style and color. Highly resistant to indentation as well as to solvents, oils, grease, and alkali, Custom Corlon will keep its beauty under severe service conditions. Additional information and larger color plates showing Custom Corlon Tile are on page 159.



Carrara White No. 460



Trieste Gray No. 461



Imperial Black No. 462



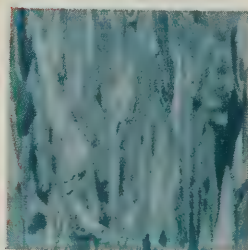
Picardy Red No. 463



Opaline Green No. 464



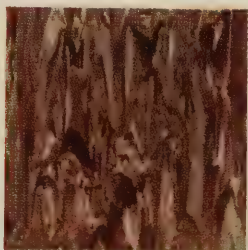
Pinard Yellow No. 465



Beryl Blue No. 466



Copra Taupe No. 467



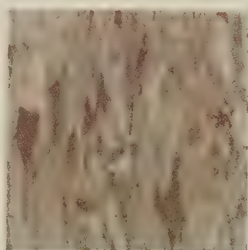
Circassian Walnut
No. 468



Aspen Green No. 469



Lava Taupe No. 470



Desert Taupe No. 471



Mist Gray No. 472



Laurel Pink No. 473



Sahara Beige No. 474



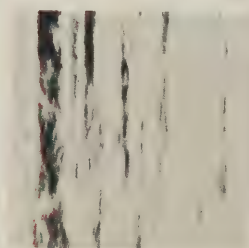
Armstrong

EXCELON TILE

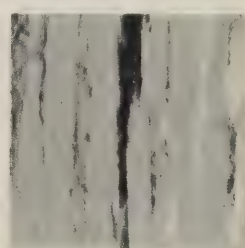
Service Gauge (1/16") and 1/8" Gauge
9" x 9"

For suspended, on- or below-grade floors

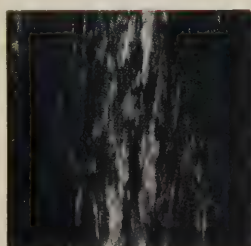
The vinyl content of Armstrong Excelon Tile gives this plastic-asbestos flooring a number of advantages. Easy to maintain and highly resistant to abrasion, it offers excellent grease resistance. The Service Gauge material is especially suited for use by the home mechanic. Page 161 has additional information and larger color plates of Excelon Tile.



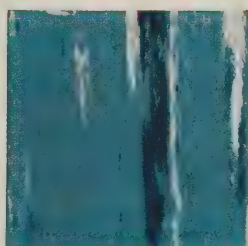
Seneca White No. 770



Mohawk Gray No. 771



Comanche Black No. 772



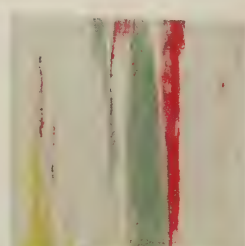
Shawnee Blue No. 773



Seminole Yellow No. 774



Aztec Gray No. 775



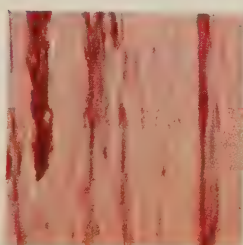
Cherokee White No. 776



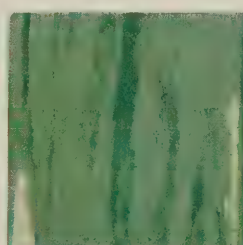
Apache Red No. 777



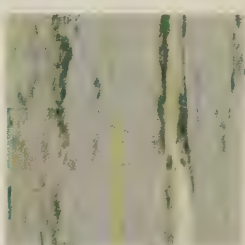
Pawnee Beige No. 778



Mohican Cedar No. 779



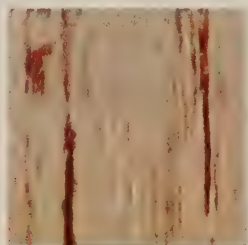
Osage Green No. 780



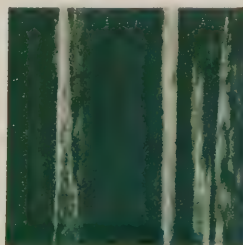
Navajo Gray No. 781



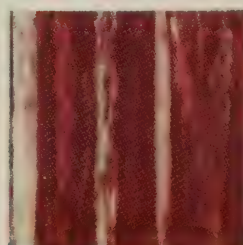
Sioux Pink No. 782



Iroquois Tan No. 783



Choctaw Green No. 784



Zuni Brown No. 785



Mohave Charcoal No. 786

Armstrong

FLAGSTONE

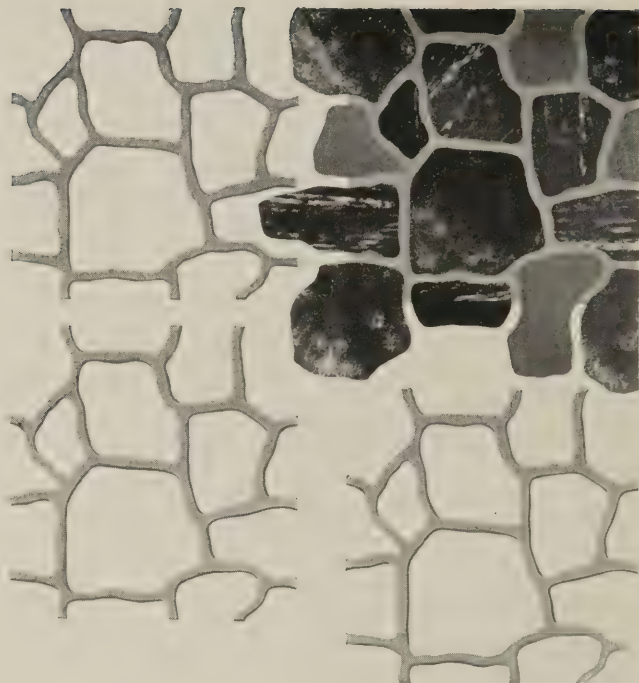
ASPHALT TILE

1/8" Gauge

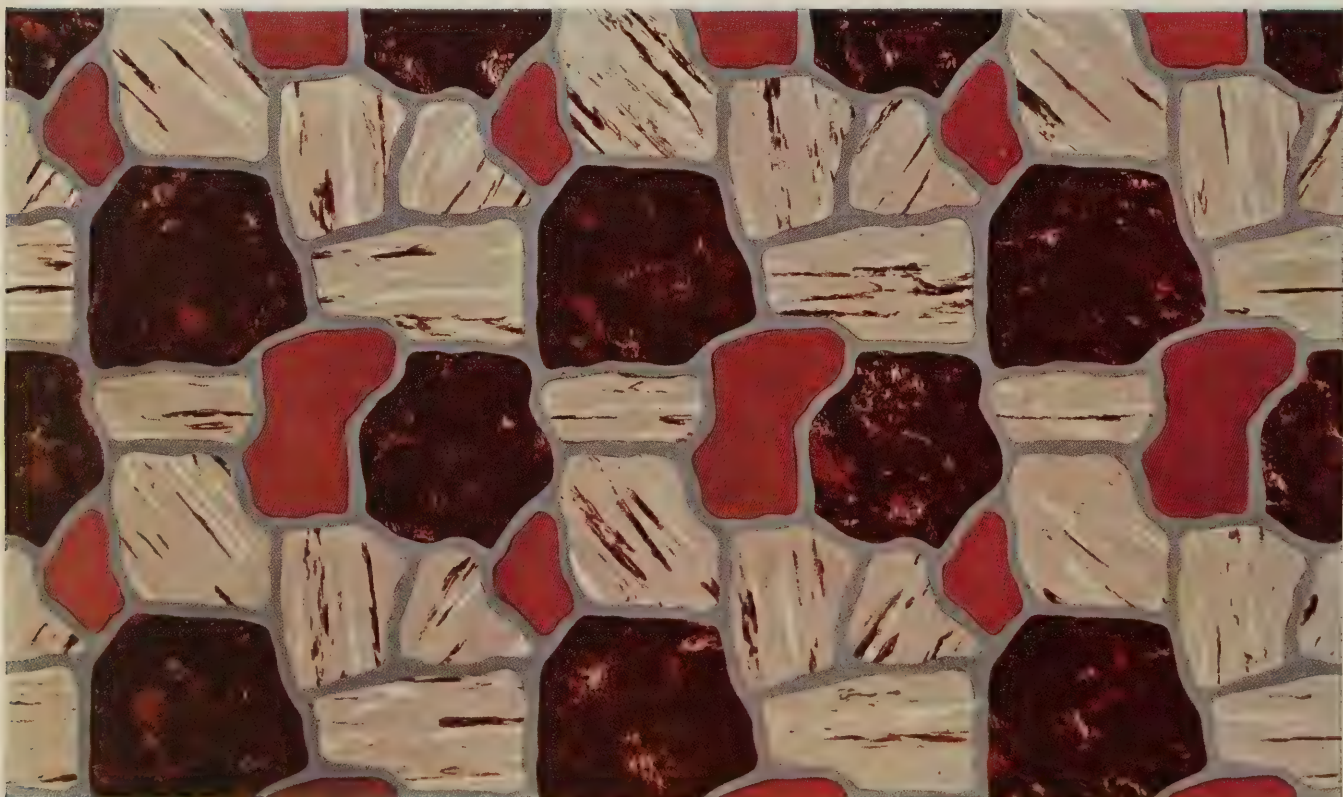
For suspended, on- and below-grade floors

Flagstone Asphalt Tile is the first pattern effect in resilient tile. Authentic in design, its revolutionary interlocking "grid" principle gives it a natural look previously unattainable. Because all of the parts are cut at the factory, floors of Armstrong Flagstone Asphalt Tile are easy to install and reasonably priced.

Armstrong Flagstone Asphalt Tile provides the long-awaited distinctive floor for modern on-grade ranch-type houses, basements, and living areas. It is also readily adaptable to traditional interiors. It is an outstanding choice for restaurants, clubs, stores, and other commercial areas. The three handsome color schemes combine plain, directionally grained, and swirl-marbleized elements. Armstrong Flagstone Asphalt Tile offers all the alkali resistance and quality features of regular Armstrong Asphalt Tile.



Armstrong Flagstone Asphalt Tile is based on 18" x 18" grids into which the vari-shaped, precision-cut tiles fit. The tiles along the sides of each grid interlock with the adjoining grid, as is shown in the drawing above, which also indicates how these tiles make the grids fit together.



No. 1080

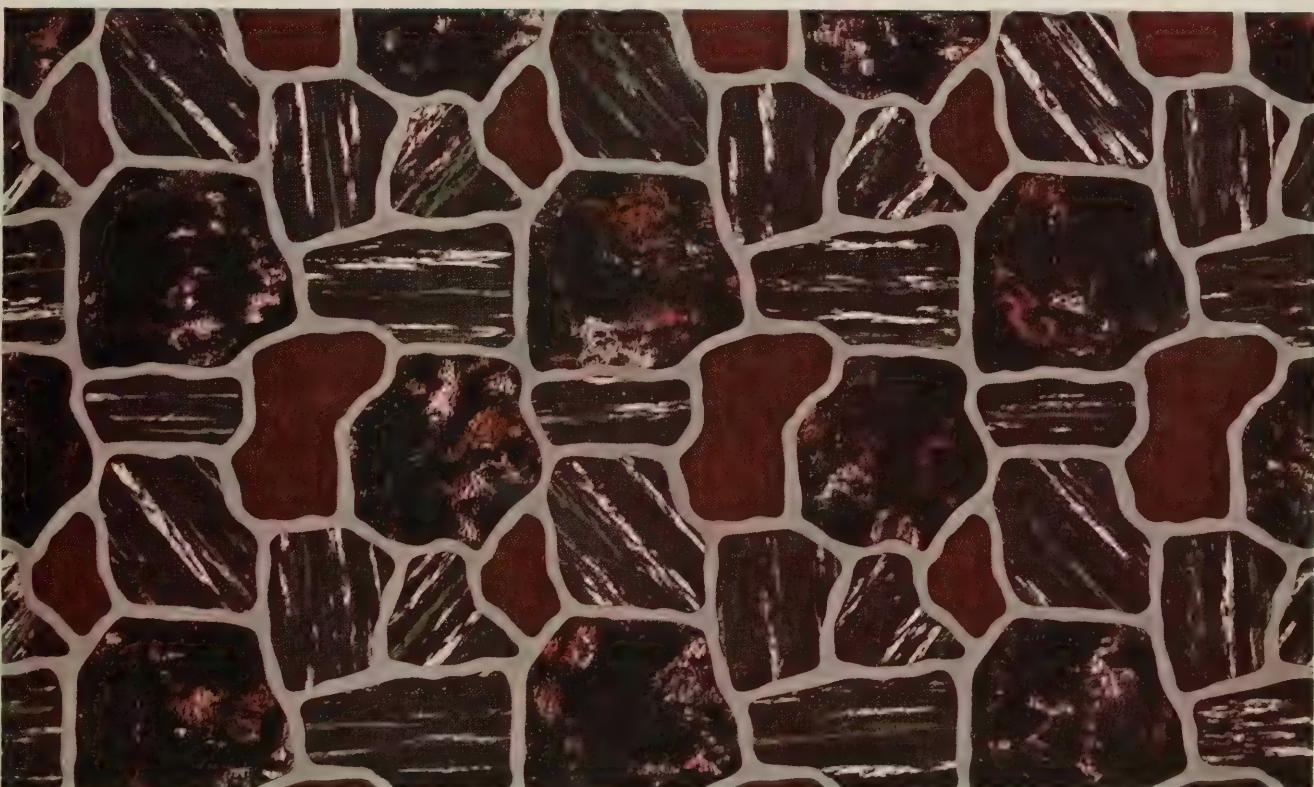
Armstrong

FLAGSTONE

ASPHALT TILE



No. 1081



No. 1082

Armstrong
 FLAGSTONE
 ASPHALT TILE

Armstrong

ASPHALT TILE

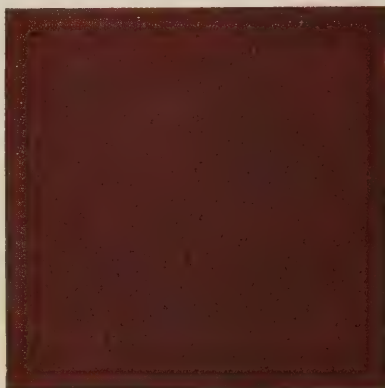
1/8" and 3/16" Gauge
9" x 9"

* Available in 18" x 24" size

G2—Available in greaseproof tile

For suspended, on- and
below-grade floors

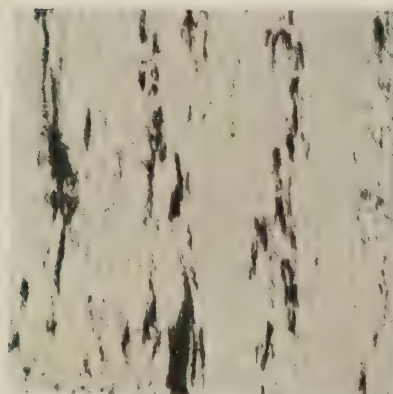
Armstrong Asphalt Tile has many fine qualities of durability and beauty far beyond anything that might be expected in an economy flooring material. Resistant to the effects of alkaline moisture, this floor is recommended for use on concrete in direct contact with the ground as well as on suspended sub-floors. The extra smooth, glossy surface of Armstrong Asphalt Tile adds to its fine appearance, minimizes cleaning effort. The Greaseproof Asphalt Tile colors match the colors in Regular Tiles.



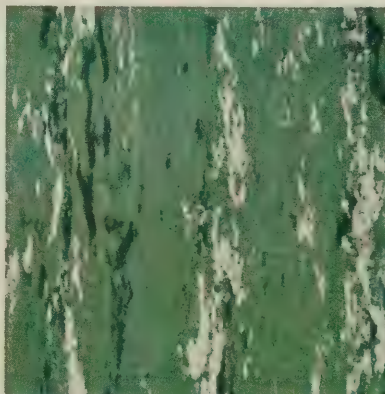
* Pompeian Red No. A-200



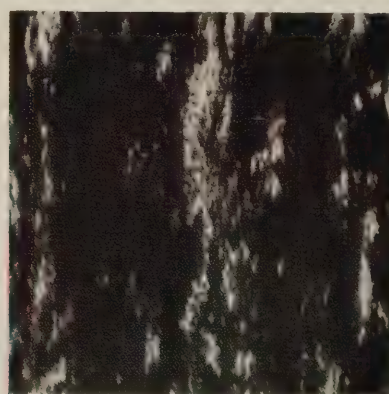
* Black No. A-210



Ivory No. D-900



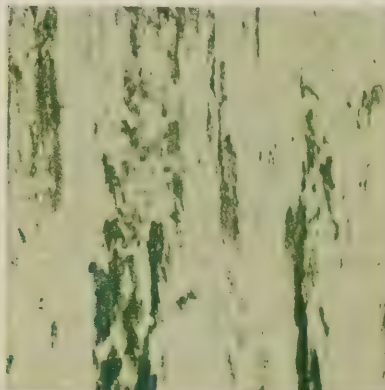
Foam Green No. C-902
(G2-902)



* Ebony No. B-905
(* G2-905)



Jasper Green No. C-907



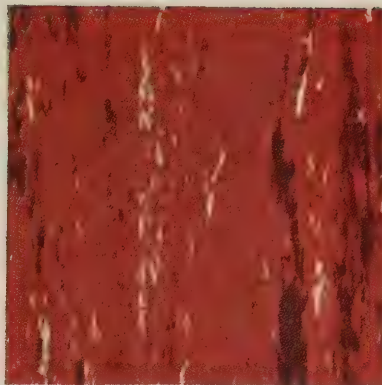
Seaspray Green No. D-911



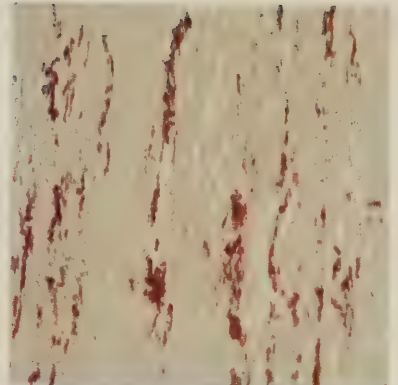
* Cedar No. B-918
(G2-918)



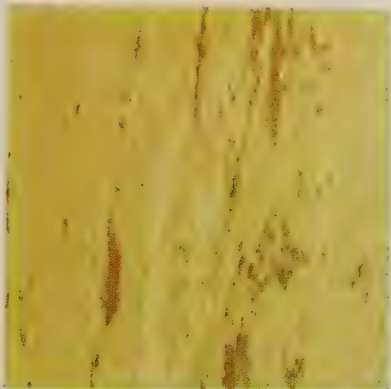
* Tokay No. B-919



Cinnabar No. C-924
(G2-924)



Palomino Beige No. C-926
(G2-926)



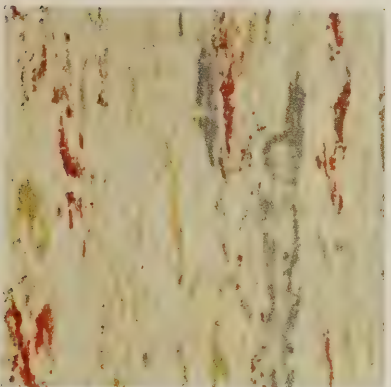
Goldenrod No. D-927



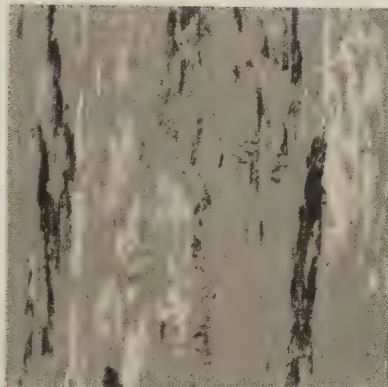
* Antique Green No. B-935



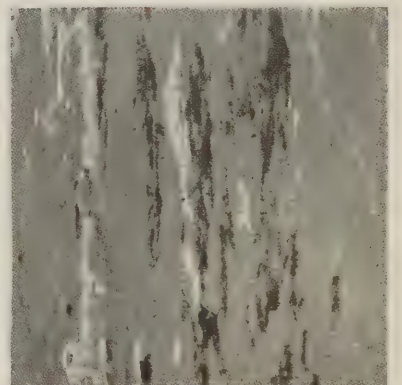
* Agate No. B-936



Tennessee No. D-942



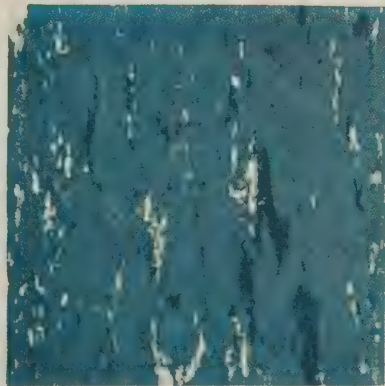
Pewter Gray No. C-944



Pearl Gray No. C-946
(G2-946)



Gray Taupe No. C-947



Lagoon Blue No. D-952



Cameo Gray No. C-961



Corinthian Red No. D-964



Light Woodtone No. D-970



Dark Woodtone No. C-971

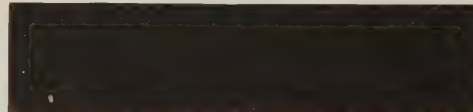
Armstrong TOP-SET ASPHALT COVE BASE

Armstrong Top-Set Asphalt Cove Base is not restricted to use in asphalt tile installations but provides a practical baseboard treatment for all kinds of

resilient floors. Available in 4" and 6" heights. Sections are 48" long. Inside and outside corners are easily formed by slightly heating the straight material.



Havana No. CB-206



Black No. CB-210



Armstrong No. S-18 Asphalt Beveled Edging

Armstrong Asphalt Beveled Edging No. S-18 is used for finishing exposed edges of floors. 1/8" or 3/16" thick, 1" wide, 36" long, black only.

Armstrong CONDUCTIVE ASPHALT TILE

The high electrical conductivity of this floor minimizes the danger of explosions caused by static electricity. Recommended for powder plants and similar areas, it should not be used in hospital operating rooms. Black only, 1/8" and 3/16" gauge, 18" x 24". Greaseproof Conductive Asphalt Tile is made for use where grease also is present.

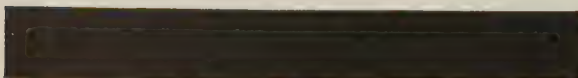
Armstrong ASPHALT TILE FEATURE STRIPS

The six plain colors shown below are made in asphalt tile feature strips 1", 2", and 3" wide and 24"

long. Used as accent colors, feature strips add interest and individuality to Asphalt Tile floor designs.



Venetian Red No. C-204



Black No. A-210



Yellow No. D-246



Light Green No. C-257



White No. D-270



Garnet No. D-275

Armstrong ASPHALT TILE

DIE-CUT INSETS

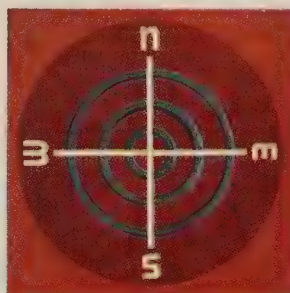
These insets can add character and individuality to residential, commercial, and institutional floors. Smart and attractive, they cost far less than custom-cut designs. These insets are 18" x 18" and 1/8" or 3/16" thick.



Wild Duck No. 500



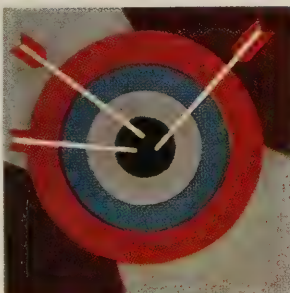
Cocktail No. 501



Compass No. 502



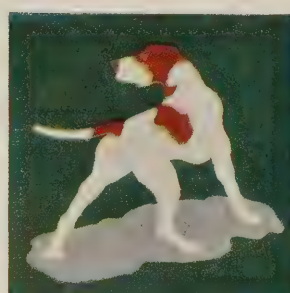
Sunburst No. 506



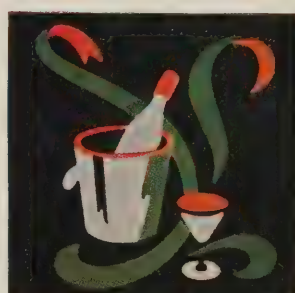
Target No. 508



Anchor No. 510



Pointer No. 511



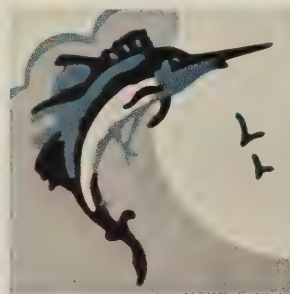
Champagne No. 514



Top Hat No. 515



Sailboat No. 516



Sailfish No. 517



Four Aces No. 520



Standard Shuffleboard No. 560
(3' x 3'9")



Siesta No. 521



Lyric No. 522



Sandtrap No. 523



Palm Tree No. 524



Florist Delivery No. 580
2 colors
Sizes 27", 36", and 63"



Cocktail No. 581
4 colors
Sizes 27", 36", and 63"

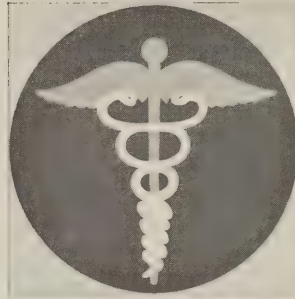
Armstrong Standard Hand-Cut Insets are available in certain popular trade-marks, monograms, and insignia for use in many kinds of stores, professional offices, and social halls. They may be ordered in any of the colors shown on the opposite page at no extra cost and in the sizes listed below the illustrations. In addition to the insets shown here, modern or script alphabet characters are also available in Asphalt Tile Standard Hand-Cut Insets.



Dental Caduceus No. 582
5 colors
Sizes 18", 27", 36", and 63"



Script Initials No. 583
2 colors
Sizes 18", 27", and 36"



Medical Caduceus No. 585
3 colors
Sizes 18", 27", 36", and 63"



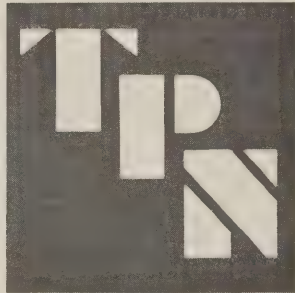
Men's Shop Design No. 586
5 colors
Sizes 18", 27", 36", and 63"



American Legion No. 587
3 colors
Sizes 27", 36", and 63"



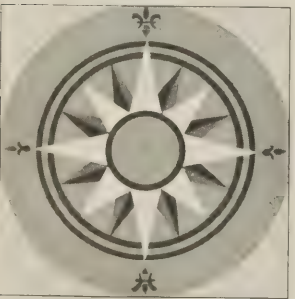
Elks Lodge Emblem No. 588
4 official colors
Sizes 27", 36", and 63"



Standard Monogram No. 589
2 colors
Sizes 18", 27", and 36"



Mortar and Pestle No. 590
3 colors
Sizes 18", 27", 36", and 63"



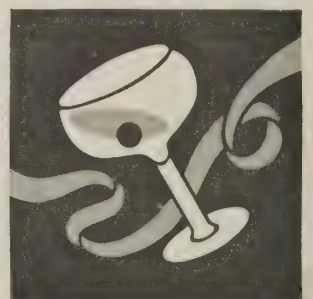
16-Point Compass No. 591
4 colors
Sizes 18", 27", 36", and 63"



Anchor No. 593
3 colors
Sizes 18", 27", 36", and 63"



Treble Clef No. 594
3 colors
Sizes 18", 27", 36", and 63"



Manhattan No. 599
3 colors
Sizes 18", 27", and 36"

Armstrong

ASPHALT TILE

STANDARD HAND-CUT INSETS

These solid colors can be used most effectively in custom, standard, and die-cut insets. Six of them, Nos. B-206, D-231, D-235, C-251, C-261, and C-266, are made especially for inset work and are not supplied for field tile, borders, or feature strips. Five of them, Nos. C-204, D-246, C-257, D-270, and D-275,

are also available as feature strips, but not as field tile or border material. All regular marbled colors in Armstrong Asphalt Tile can also be used for insets. This wide assortment of colors permits creating insets which closely match organizational colors and which are appropriate for a wide variety of color schemes.



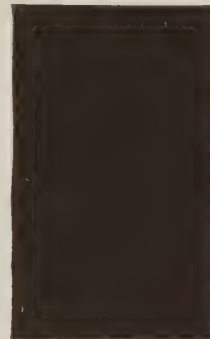
Pompeian Red
No. A-200



Venetian Red
No. C-204



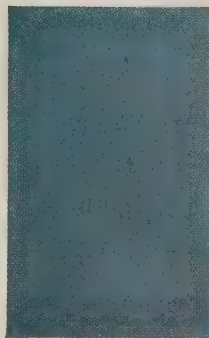
Havana
No. B-206



Black
No. A-210



Regal Blue
No. D-231



Azure Blue
No. D-235



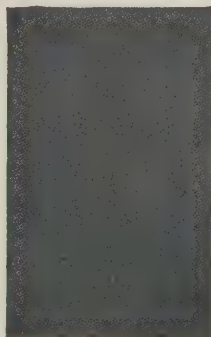
Yellow
No. D-246



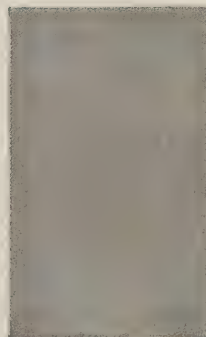
Dark Green
No. C-251



Light Green
No. C-257



Lead Gray
No. C-261



Steel Gray
No. C-266



White
No. D-270



Garnet
No. D-275

Armstrong
ASPHALT TILE
INSET COLORS

Armstrong

LINOTILE

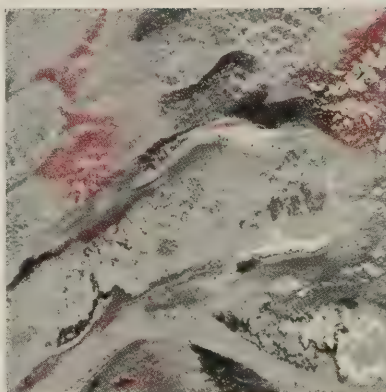
$\frac{1}{8}$ " Gauge

6" x 6", 9" x 9", 12" x 12", 18" x 36"

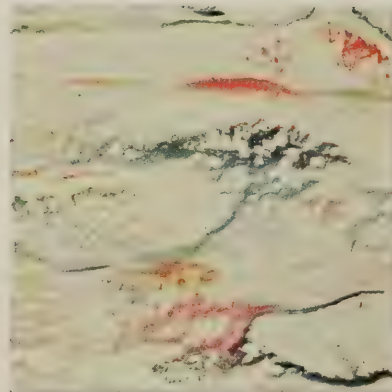
For suspended floors only

Linotile is an exclusive Armstrong product with a composition similar to that of linoleum. However, special manufacturing methods give it much greater density and unexcelled resistance to indentation and abrasion. Time proved, Linotile has been widely used since 1914. It is so durable that it is a leading choice for such heavy traffic areas as entrance ways. Linotile is easy and inexpensive to maintain and it is all wearing surface, with colors that go all the way through the material.

In styling, Armstrong Linotile offers an extremely modern concept in resilient tile marbleization. With its bolder, sharper graining and directional effect, it features unusual accent colors in striking combinations. All Linotile colors are styled to harmonize with each other, so any of them can be combined for a pleasing effect. Linotile is a popular flooring choice for schools, hospitals and other institutions, restaurants, stores, offices, and residences.



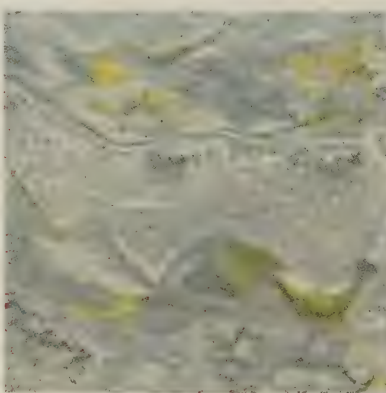
Ruby Gray No. 170



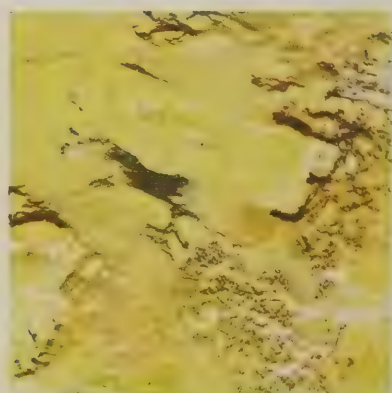
Rainbow No. 171



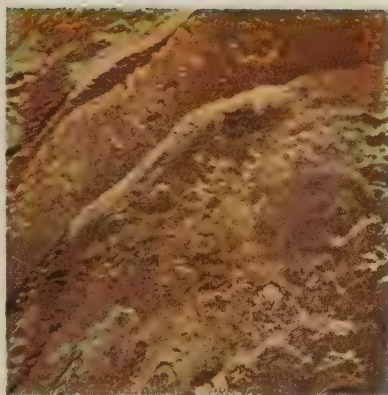
Sultan Red No. 172



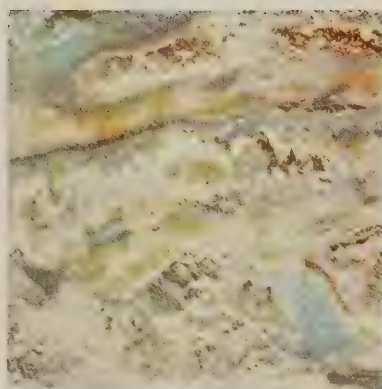
Mistglow No. 173



Sunglow No. 174



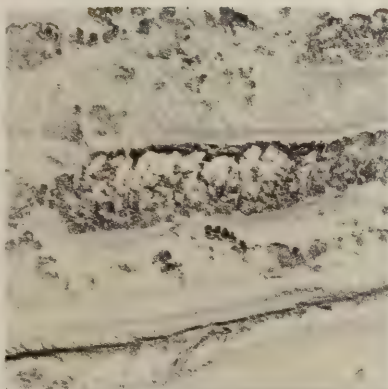
Cocoa Verde No. 175



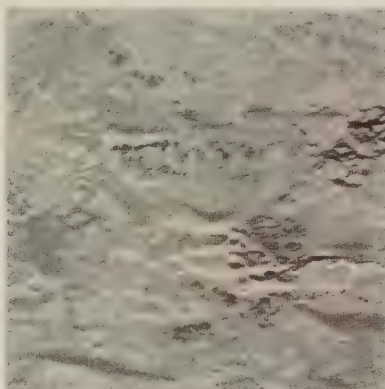
Beige Antique No. 176



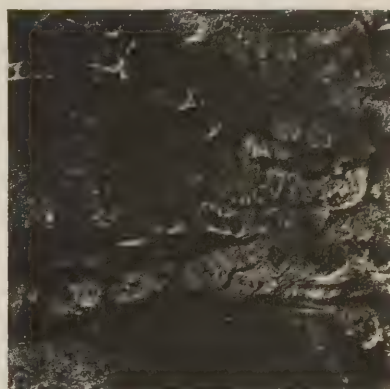
Landscape Green No. 177



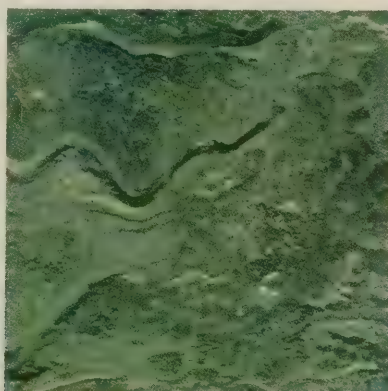
Alabaster No. 178



Silver Gray No. 179



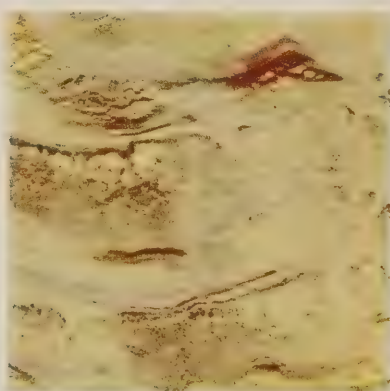
Jet Black No. 180



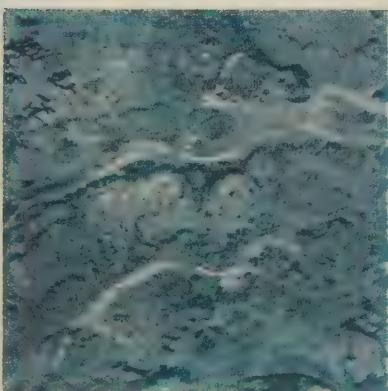
Ocean Green No. 181



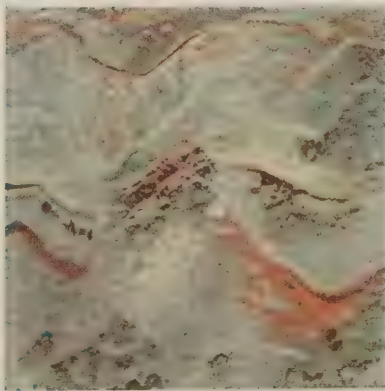
Alpine Green No. 182



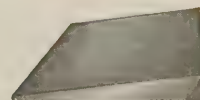
Travertine No. 183



Caribbean Blue No. 184



Rose Gray No. 185



No. S-17 Linotile Beveled Edging

Linotile Beveled Edging is used for finishing edges of all types of resilient floors. It is made in 1/8" gauge only, 1" wide and 36" long, in all Linotile colors. It tapers to 1/32" on the edge.

Armstrong

RUBBER TILE

1/8" and 3/16" Gauge

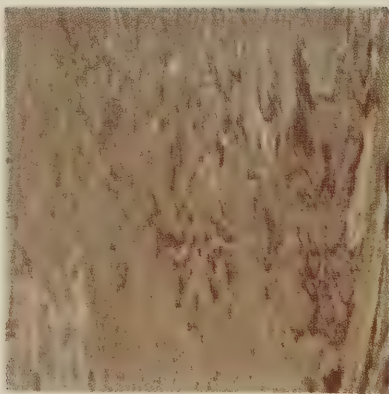
6" x 6", 9" x 9", 12" x 12", 18" x 36"

For suspended, on- and below-grade floors

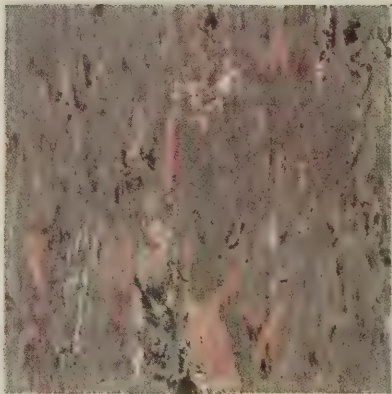
Armstrong Rubber Tile represents the finest quality flooring of its type. It combines exceptional durability and outstanding beauty. The mirror-like plate finish of this floor is one of its most distinguishing characteristics. Rich graining, plus clear brilliance of color, adds to its handsome appearance. With the use of a special Armstrong development, No. S-104 Chemical-Set Waterproof Cement, Armstrong Rubber Tile can be installed on basement and grade-level concrete floors as well as on suspended subfloors.



Ecruette No. 609



Beige Taupe No. 610



Coralette No. 611



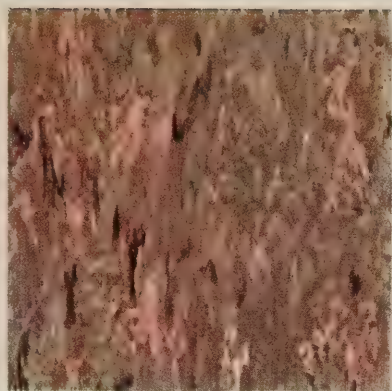
Canary Yellow No. 612



Black White No. 613



Grecian Pink No. 622



Napoleon Gray No. 625



Dubonnet No. 626



Chartreuse No. 646



Cypress Green No. 649



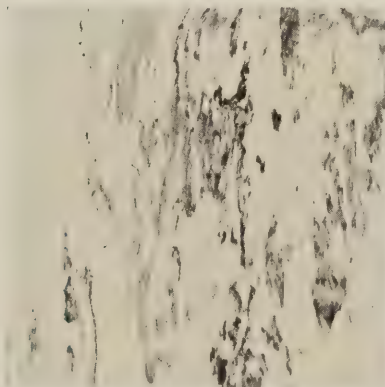
Verde Antique No. 650



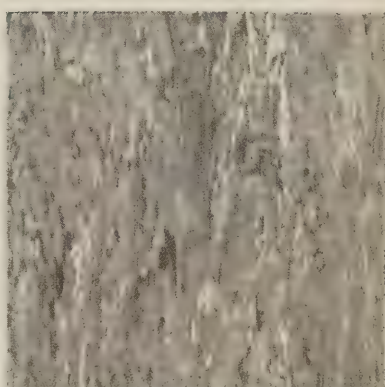
White Jade Green No. 651



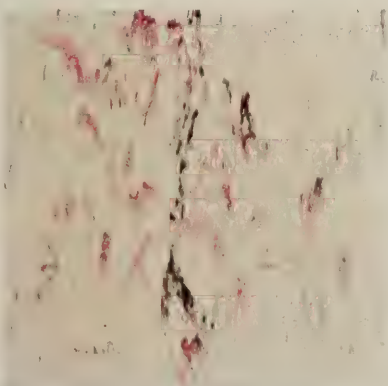
Jade Green White No. 652



White Black No. 653



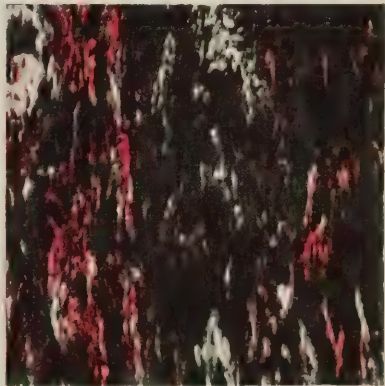
Silver Gray No. 656



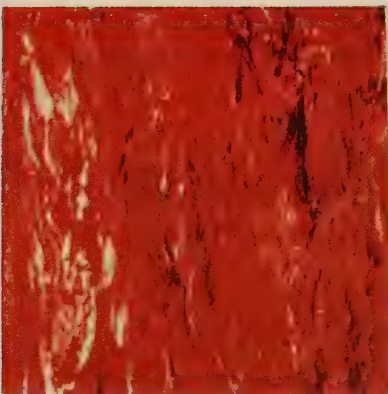
White Ruby Red No. 664



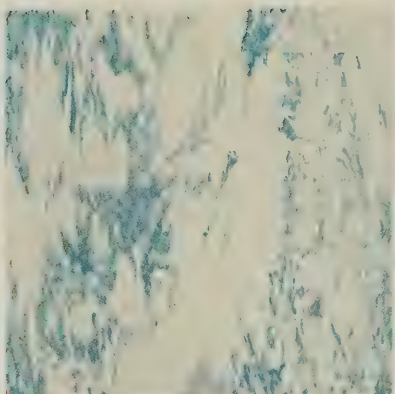
Ruby Red White No. 665



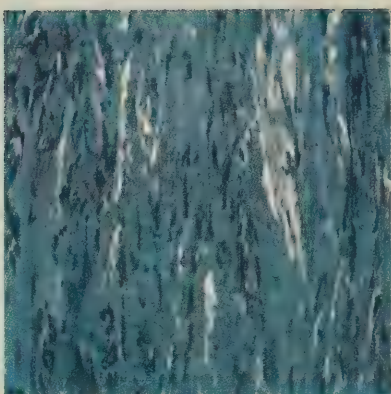
Black Ruby Red No. 666



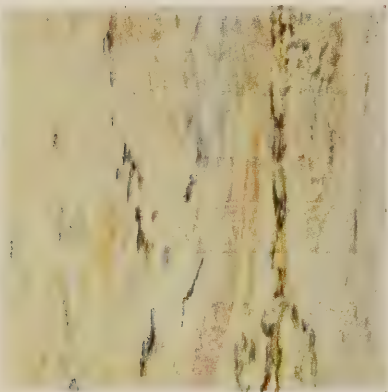
Spanish Red Paisley No. 668



White True Blue No. 674



True Blue White No. 676



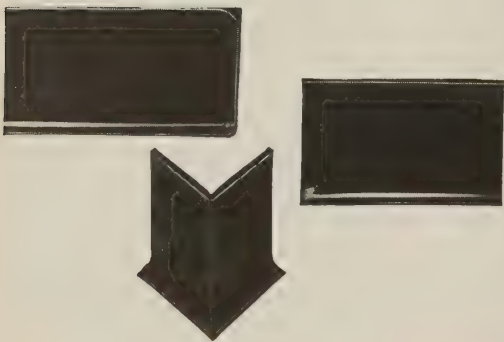
Pink Tennessee No. 681



Mahogany Paisley No. 689



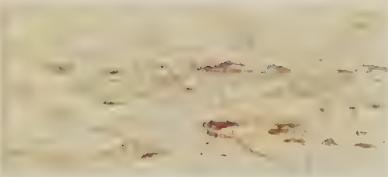
Plain Black No. 695



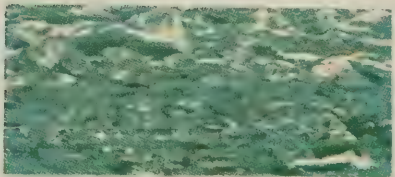
Armstrong

TOP-SET RUBBER COVE BASE

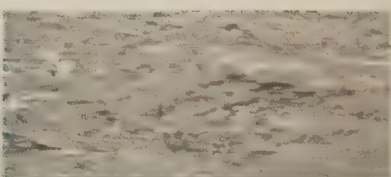
Armstrong Top-Set Rubber Cove Base is the same high quality as Armstrong Rubber Tile flooring. It has a lustrous sheen that enhances the beauty of the floor. It eliminates dirt-catching joints and corners. Internal corners are molded to 36" straight pieces. External corners are separate. Top-Set Rubber Cove Base is available in both 4" and 6" heights.



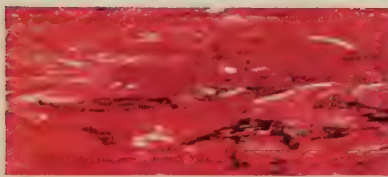
Ecrulette No. CB-609



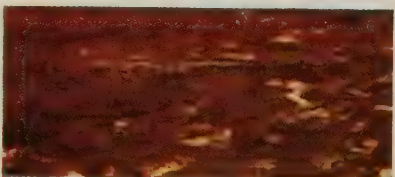
Jade Green White No. CB-652



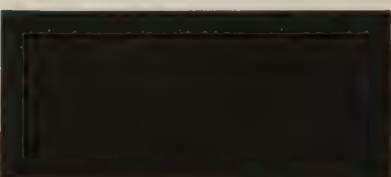
Silver Gray No. CB-656



Ruby Red White No. CB-665



Mahogany Paisley No. CB-689



Plain Black No. CB-695



No. 410



No. 411



Armstrong CORK TILE

1/8", 3/16", and 5/16" Gauge

6" x 6", 6" x 12", 9" x 9",

12" x 12", 12" x 24"

For suspended and on-grade floors

Armstrong Cork Tile is an ideal floor for areas requiring quiet dignity and non-slip protection. The exclusive shadings meet today's decorating trends and blend with modern or traditional interiors.

The exclusive electronic process by which Armstrong Cork Tile is made gives it greater strength and durability, eliminates scorching.

Armstrong Cork Tile can be used over all types of suspended subfloors. It may be laid over concrete on grade if the top of the slab is at least 12" above grade level, if the grade slopes away from the foundation, and if the Cork Tile is installed with No. S-214 Waterproof Cement.

Armstrong CUSTOM CORK TILE

A special factory packaging arrangement makes possible the creation of many interesting custom floor effects in Armstrong Cork Tile at standardized prices. A wide variety of expensive-looking, modern designs, including the three shown below, can be easily and economically installed from these standard factory packages.



◀ No. 1010

3/16" Gauge

Combines light colored nine-inch octagonal tiles and dark three-inch squares to create an arresting over-all custom floor effect.

No. 1300 ▶

3/16" Gauge

Consists of 3" x 12" unbeveled rectangles equally divided between light and dark shades, permitting a variety of unusual effects as illustrated in two designs at right.



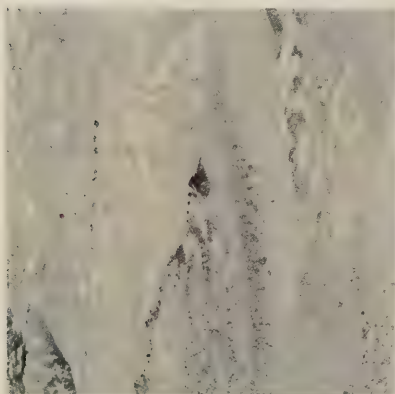
Armstrong

ROYELLE

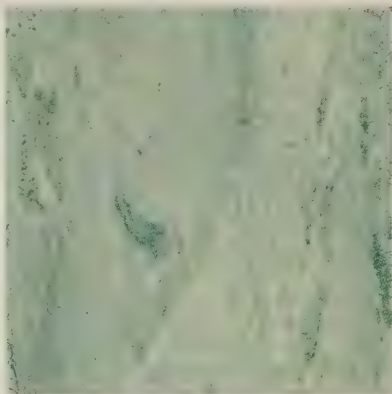
LINOLEUM TILE

Standard Gauge 9" x 9" For suspended floors only

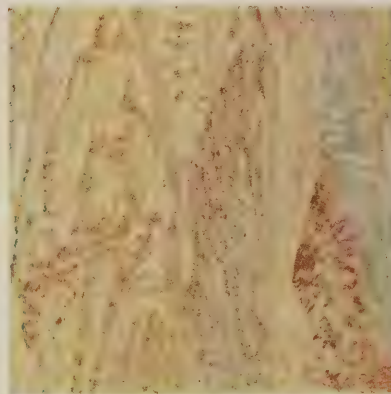
The handsome, bold graining of the Royelle Linoleum styling is especially adaptable to resilient floor tiles. With the graining in each tile alternated, it's unusually striking in a single pattern or with two or more colors.



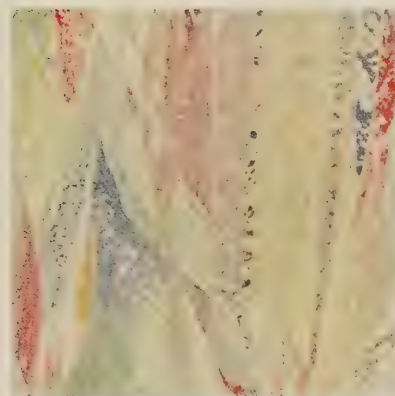
No. 1500



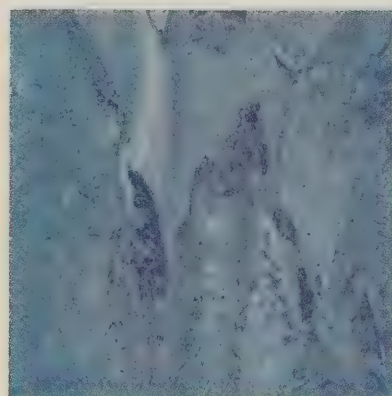
No. 1501



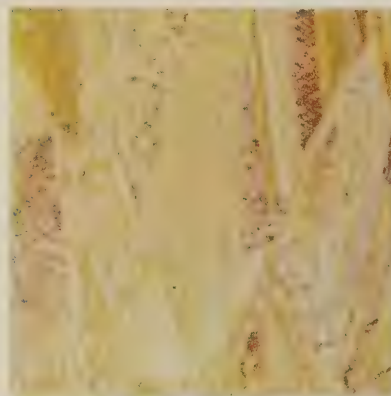
No. 1502



No. 1503



No. 1504



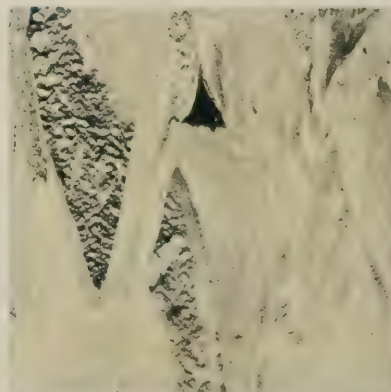
No. 1505



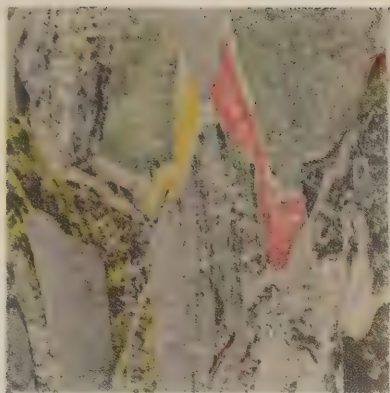
No. 1506



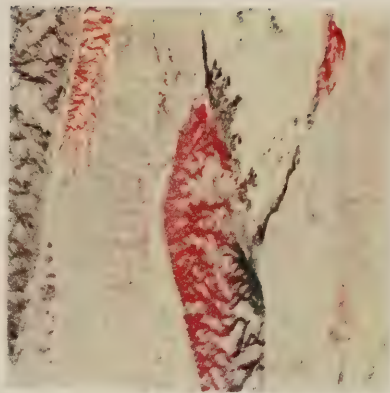
No. 1507



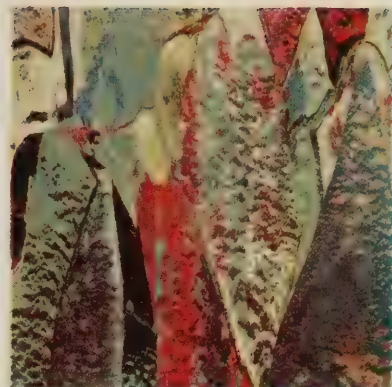
No. 1508



No. 1509



No. 1510



No. 1511



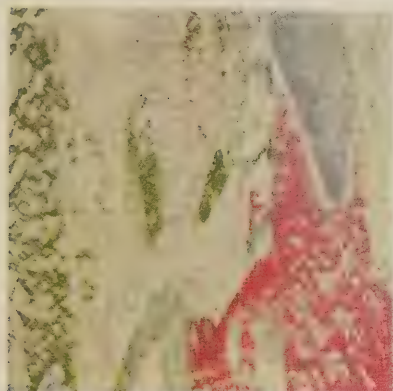
No. 1512



No. 1513



No. 1514



No. 1515



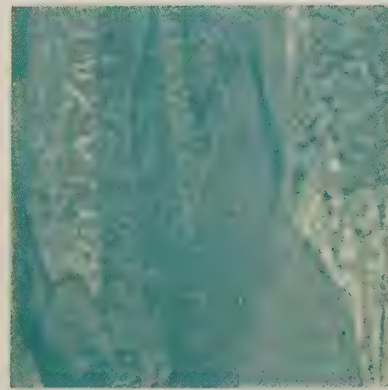
No. 1516



No. 1517



No. 1518



No. 1519

Armstrong
ROYELLE
LINOLEUM
TILE

Armstrong

RAYBELLE

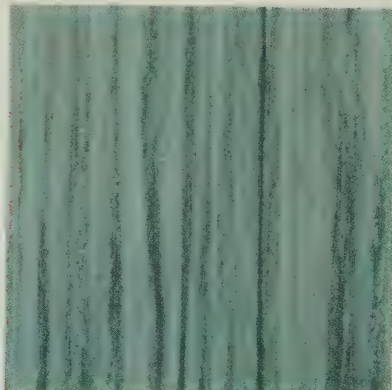
LINOLEUM TILE

Standard Gauge 9" x 9" For suspended floors only

Armstrong Raybelle Linoleum Tile is characterized by the bold, multitoned striations of the graining. Its beauty is further enhanced when the tiles are installed with alternating graining. This floor is extremely attractive with Plain Linoleum Linostrips.



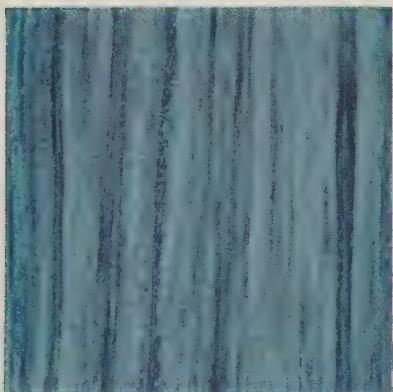
Rubray No. 70



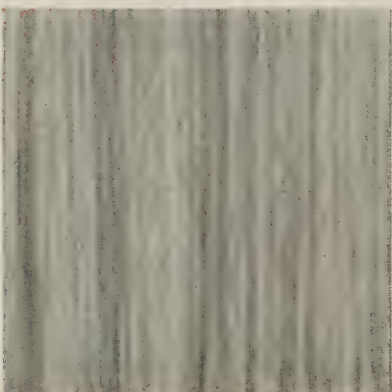
Aquaray No. 71



Cocoray No. 72



Azuray No. 73



Silveray No. 74



Multiray No. 76



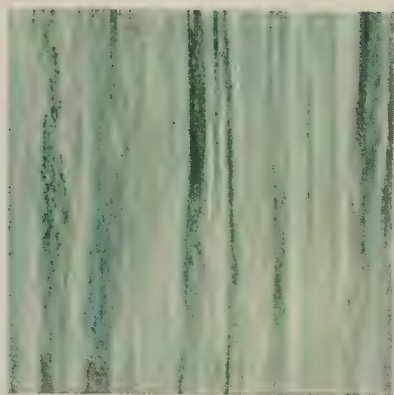
Rose ray No. 77



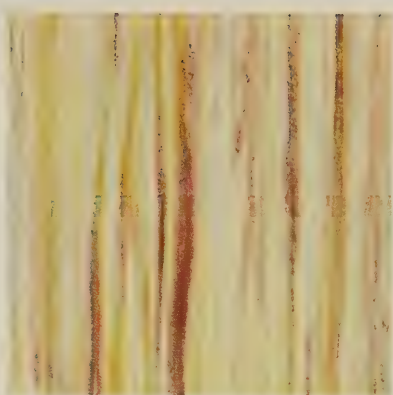
Yelloray No. 78



Mistray No. 79



Surfray No. 80



Goldray No. 81



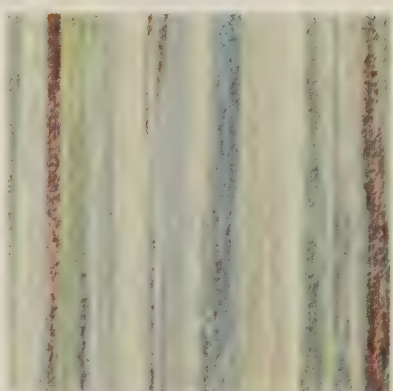
Coralray No. 82



Tanray No. 83



Chocoray No. 84



Rainboray No. 85



Pinkray No. 86



Taupray No. 87

Armstrong RAYBELLE LINOLEUM TILE

Three Colorings in 6" x 12" size

The three colors of Armstrong Raybelle Linoleum shown below are made in a special 6" x 12" tile size for floor effects of unusual beauty. These rectangular tiles can be combined in a number of ways not possible with square tiles. Parquetry inlay effects such as chevron, herringbone, and other rectangular designs are extremely popular in these handsome, rich wood tone colorings of Armstrong Raybelle Linoleum.



Cocoray No. 72



Tanray No. 83



Chocoray No. 84

Armstrong DECORAY LINOLEUM TILE

Light Gauge
9" x 9"
For suspended floors only

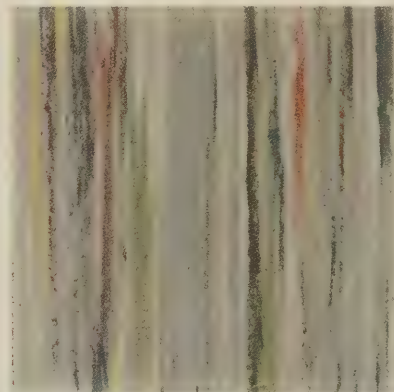
Made especially to meet the demand for low-cost flooring that's easy for the home mechanic to install himself, Armstrong Decoray Linoleum Tile offers many advantages. The handsome colors have been designed to add beauty to any decorative scheme. The tiles are precision cut with true, straight edges to simplify installation. Their flexibility makes fitting easy, and these tiles can be cut with ordinary household shears. The low cost of Armstrong Decoray Linoleum Tile has special appeal wherever price is of primary consideration. It's a modern flooring material that provides unusual brilliance of color and smart styling at minimum cost.



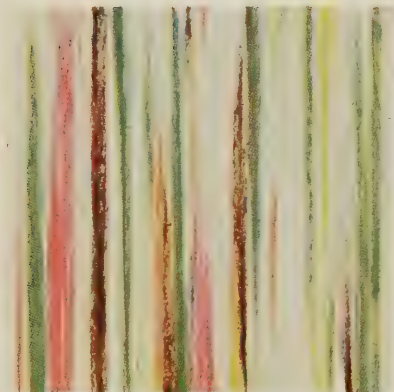
No. 1800



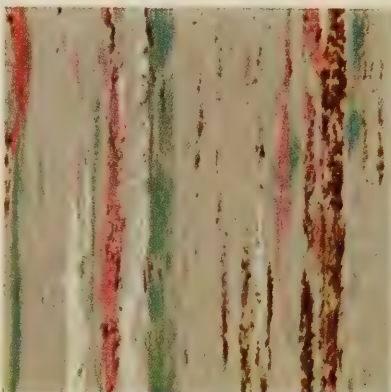
No. 1801



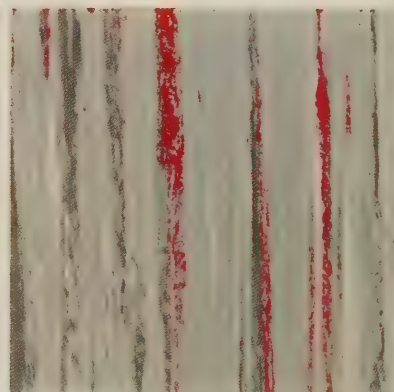
No. 1802



No. 1803



No. 1804

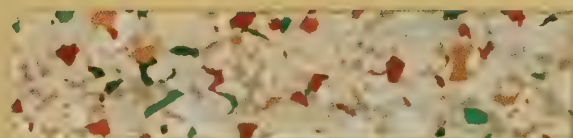
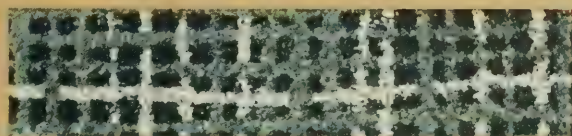
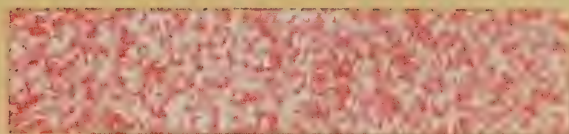


No. 1805

Armstrong
DECORAY
LINOLEUM TILE



Armstrong *Plastics*



ARMSTRONG PLASTICS...

A complete line of plastic materials for floors and counter tops

Corlon is the trade-mark for the various vinyl-plastic flooring materials made by Armstrong. There are several types of Corlon Floors with different stylings and characteristics. The vinyl-plastic compositions developed by Armstrong research make all the Corlon Floors dimensionally stable, long wearing, extra easy to clean, and resistant to the effects of alkaline cleansers, spilled beverages, grease, and oils. Unexcelled designing skill and quality control in manufacturing, developed through years of flooring experience, combine with research to make Armstrong Plastics outstanding values in styling and service.



GRANETTE CORLON

A handsome, durable flooring material, Armstrong Granette Corlon also is an ideal work surface for counter tops and sink tops. Not easily marred or scratched, it cleans easily with a damp cloth. The distinctive styling unites the rich beauty of plain colors with the dirt-concealing characteristics of mottled coloring. Granette Corlon is made in four widths—30", 36", 42", and 72". This enables counter-top material to be purchased and installed with minimum waste. The 72" width permits almost seamless floors. Because of its excellent flexibility, Granette Corlon can be flashed up the wall at the floor or counter-top line eliminating hard-to-clean corners and dust-catching joints.



DECORESQ CORLON

An Armstrong exclusive, Decoresq Corlon is the first patterned inlaid plastic flooring. The design is built right in the molded plastic wearing surface. Featuring stripes and woven textured effects, the handsome Decoresq stylings are extremely popular with decorators and designers for high-style interiors. With its unique styling, Decoresq Corlon combines rugged durability for floors of lasting beauty. Like all Corlon, Decoresq is extra easy to clean. The heavy inlaid plastic withstands the harmful effects of alkaline cleansers, grease, oil, and other household reagents. Available in a choice of two stylings and six colorings, Armstrong Decoresq Corlon is made in rolls two yards wide.

TERRAZZO CORLON

Armstrong Terrazzo Corlon is another style leader in plastic flooring. Like Armstrong Granette and Decoresq Corlon, Terrazzo Corlon also is an inlaid plastic. The colors are inlaid right in the vinyl-plastic wearing surface. Terrazzo Corlon's styling has all the handsome beauty of classic terrazzo with its multi-colored stone chip effect. Beyond this, Terrazzo Corlon offers the comfort and quietness underfoot that are such desirable features in modern resilient flooring. The smooth plastic surface of Terrazzo Corlon is exceptionally easy to keep clean. In addition, it is highly resistant to the effects of alkalis, grease, and oils. Terrazzo Corlon is made in rolls two yards wide.



CUSTOM CORLON TILE


Armstrong Custom Corlon Tile is a luxury vinyl plastic representing the ultimate in resilient floor styling and durability. The rich, clear colors in the distinctive burl graining, plus the exceptionally smooth glossy surface, make it well suited for interiors of elegance and refinement. Made in a full $3/32$ " and $1/8$ " thickness of true vinyl plastic, Custom Corlon Tile is dimensionally stable. It will not shrink or stretch. Available in fifteen colors and four sizes— $6'' \times 6''$, $9'' \times 9''$, $12'' \times 12''$, and $18'' \times 36''$ —there's almost no limit to the designs that can be created in this floor. Extremely durable, Custom Corlon Tile has highest resistance to the effects of solvents, oils, greases, and alkalis.



EXCELON TILE

This new plastic-asbestos flooring has outstanding beauty and durability at a moderate cost. Its vinyl content gives Armstrong Excelon Tile excellent resistance to grease, oils, and normal chemical reagents. Tough and alkali resistant, Excelon Tile is suitable for installation in basements, on grade-level concrete slabs, and on suspended floors. Excelon Tile is made in two thicknesses— $1/8$ " Gauge and Service Gauge ($1/16$ "). Service Gauge Excelon Tile is an economy flooring material especially suited for installation by the home mechanic. Flexible and easy to cut with shears or a knife, without heating, Service Gauge Excelon offers unusual ease of fitting at the wall line and around fixtures.





Exclusive stylings in ARMSTRONG CORLON roll form plastics

... GRANETTE CORLON

... TERRAZZO CORLON

... DECORESQ CORLON

For suspended floors only

The three exclusive stylings in Armstrong roll form plastic flooring—Granette, Terrazzo, and Decoresq Corlon—provide opportunity for unusual custom floor effects. Scrolls, ribbons, and various other curved designs are especially adaptable to these flooring materials. Wall-to-wall installations in a single styling provide the advantage of smart-looking floors with minimum seams.



Approximately 1/2 actual size

No. 6100



Approximately 1/2 actual size

No. 6101

Armstrong
GRANETTE CORLON

30", 36", 42", and 72" wide



No. 6102

Approximately 1/2 actual size



No. 6103

Approximately 1/2 actual size

Armstrong
GRANETTE CORLON

30", 36", 42", and 72" wide



Approximately 1/2 actual size

No. 6104

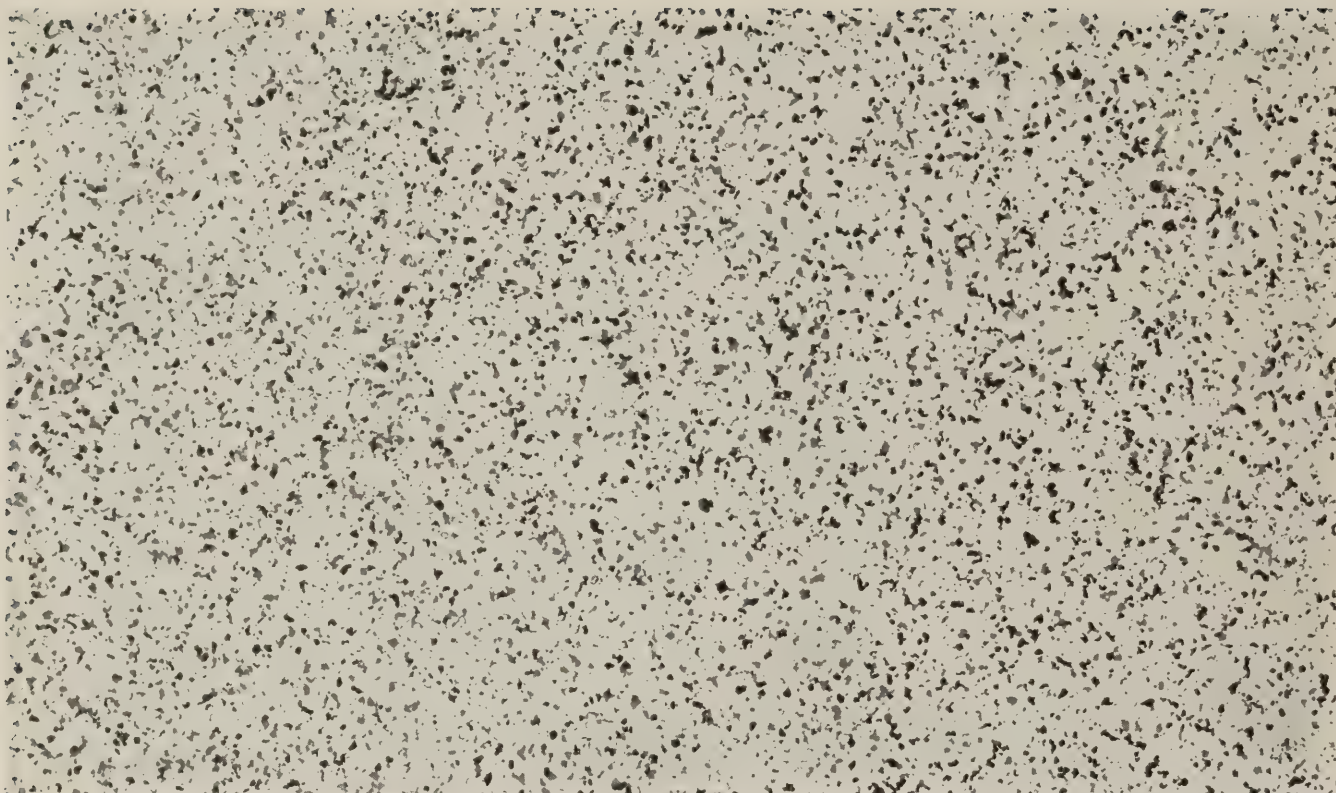


Approximately 1/2 actual size

No. 6105

Armstrong
GRANETTE CORLON

30", 36", 42", and 72" wide



No. 6107

Approximately 1/2 actual size



No. 6108

Approximately 1/2 actual size

Armstrong
GRANETTE CORLON

30", 36", 42", and 72" wide



Approximately 1/2 actual size

No. 6109

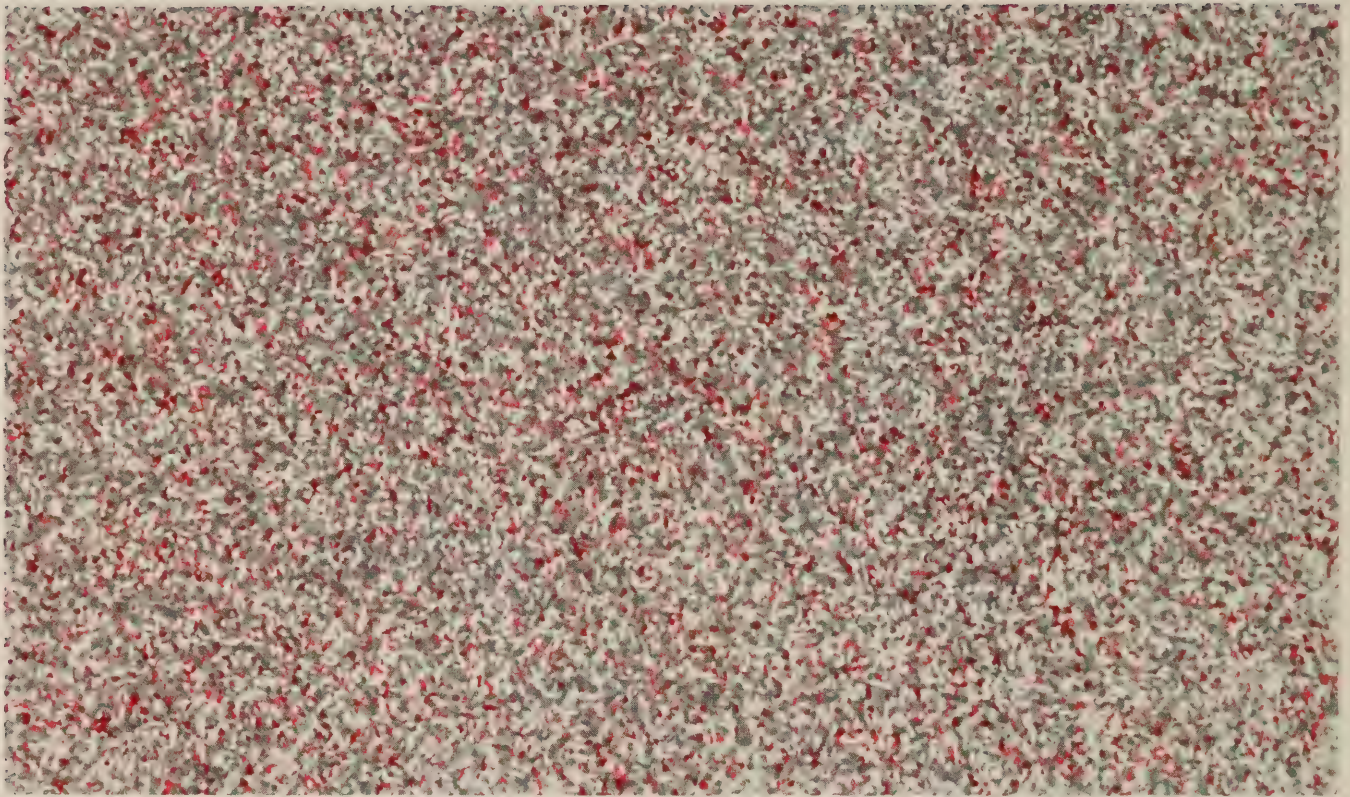


Approximately 1/2 actual size

No. 6120

Armstrong
GRANETTE CORLON

30", 36", 42", and 72" wide

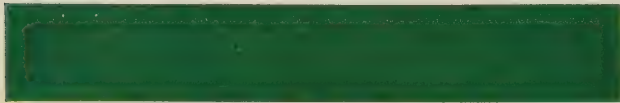


No. 6121

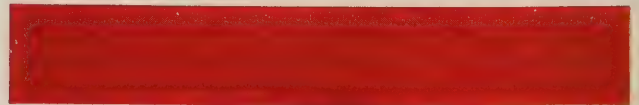
Approximately 1/2 actual size

Armstrong
GRANETTE CORLON

30", 36", 42", and 72" wide



No. 6050



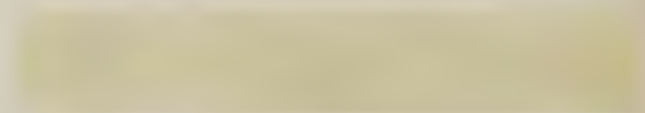
No. 6051



No. 6052



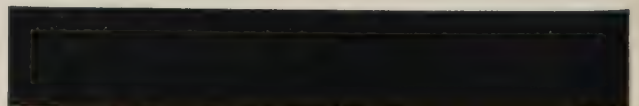
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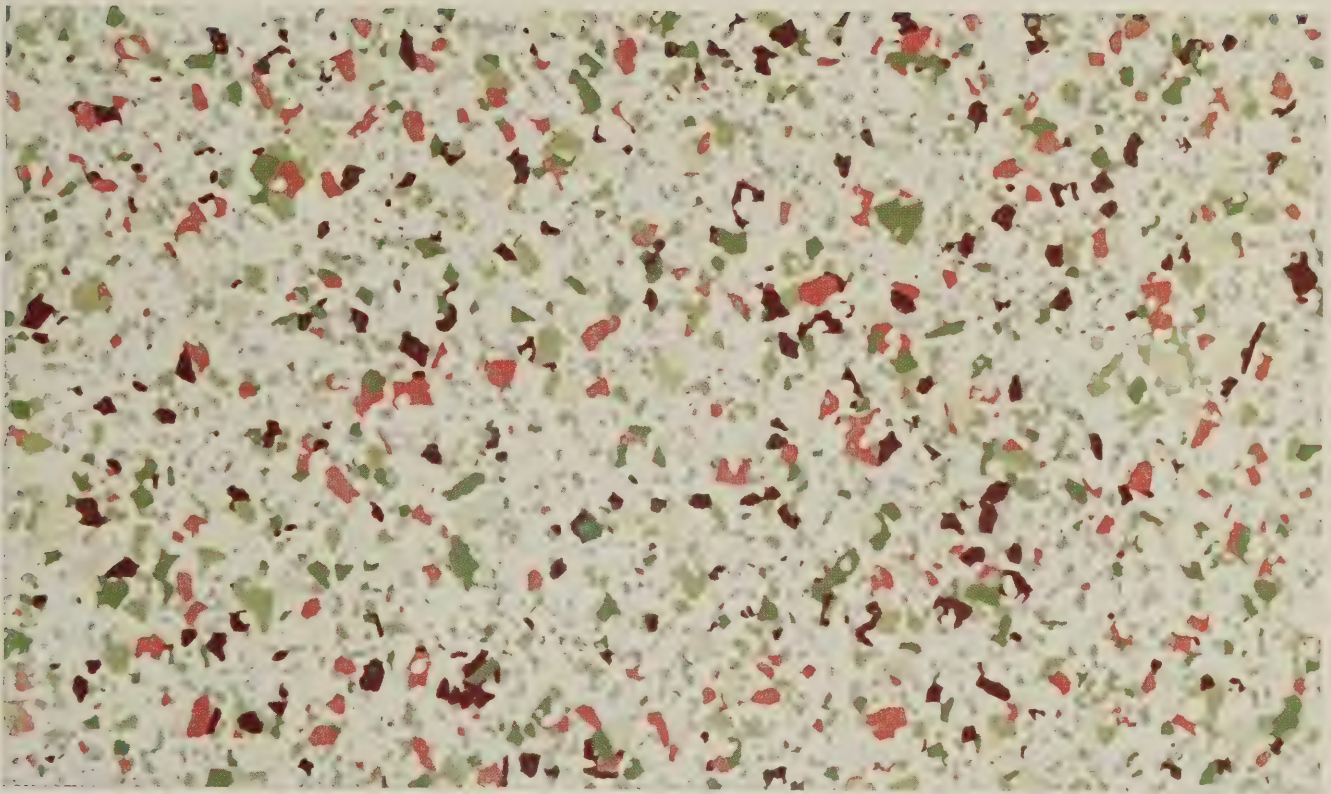
No. 6054

Armstrong
PLAIN CORLON

1" wide only
for feature strip use

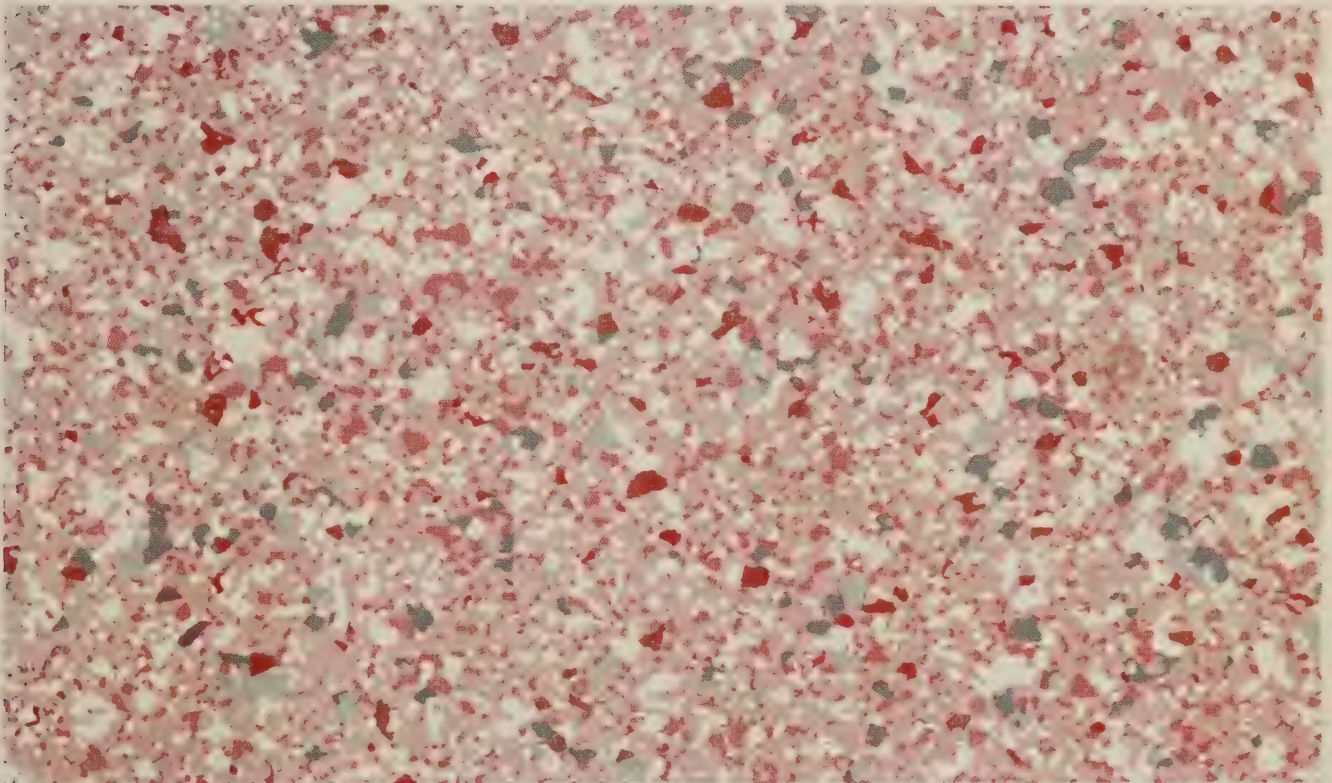


No. 6057



Approximately 1/2 actual size

No. 6200

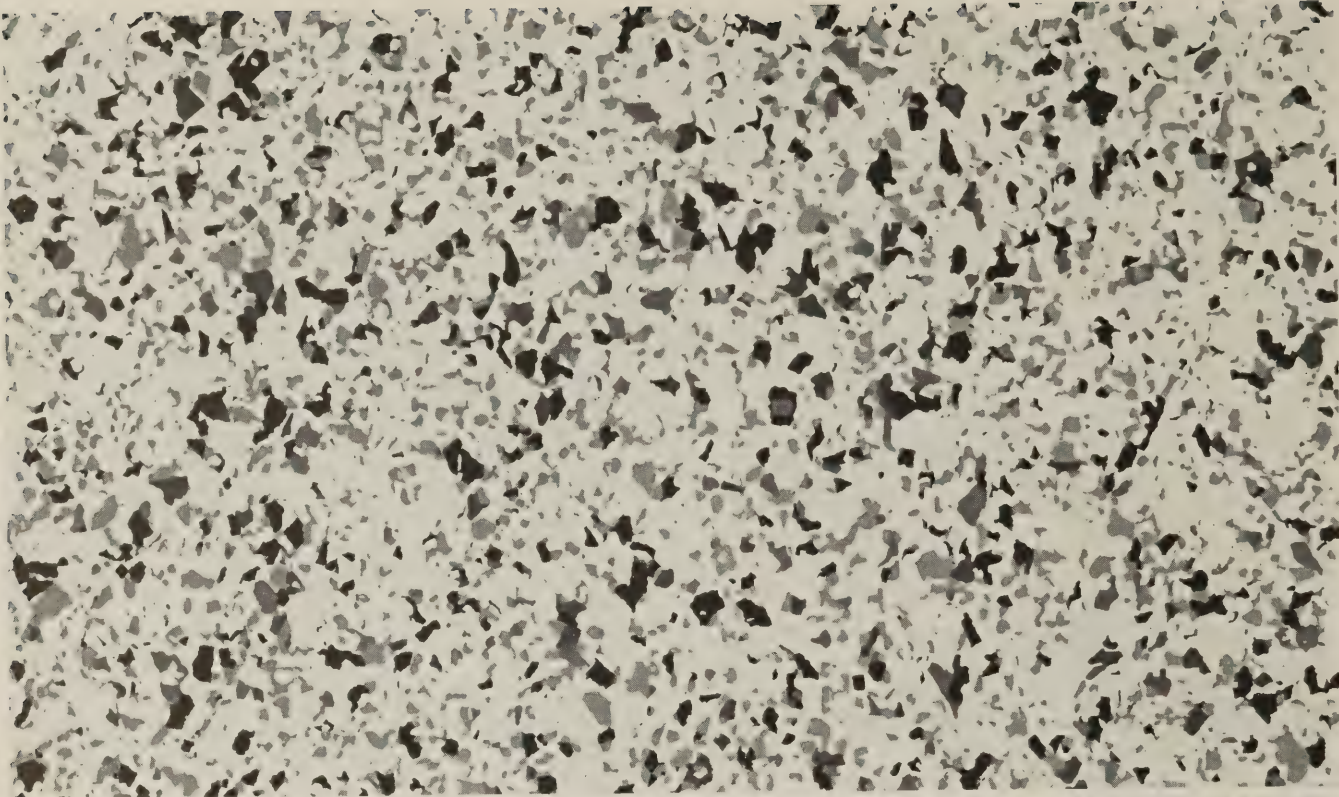


Approximately 1/2 actual size

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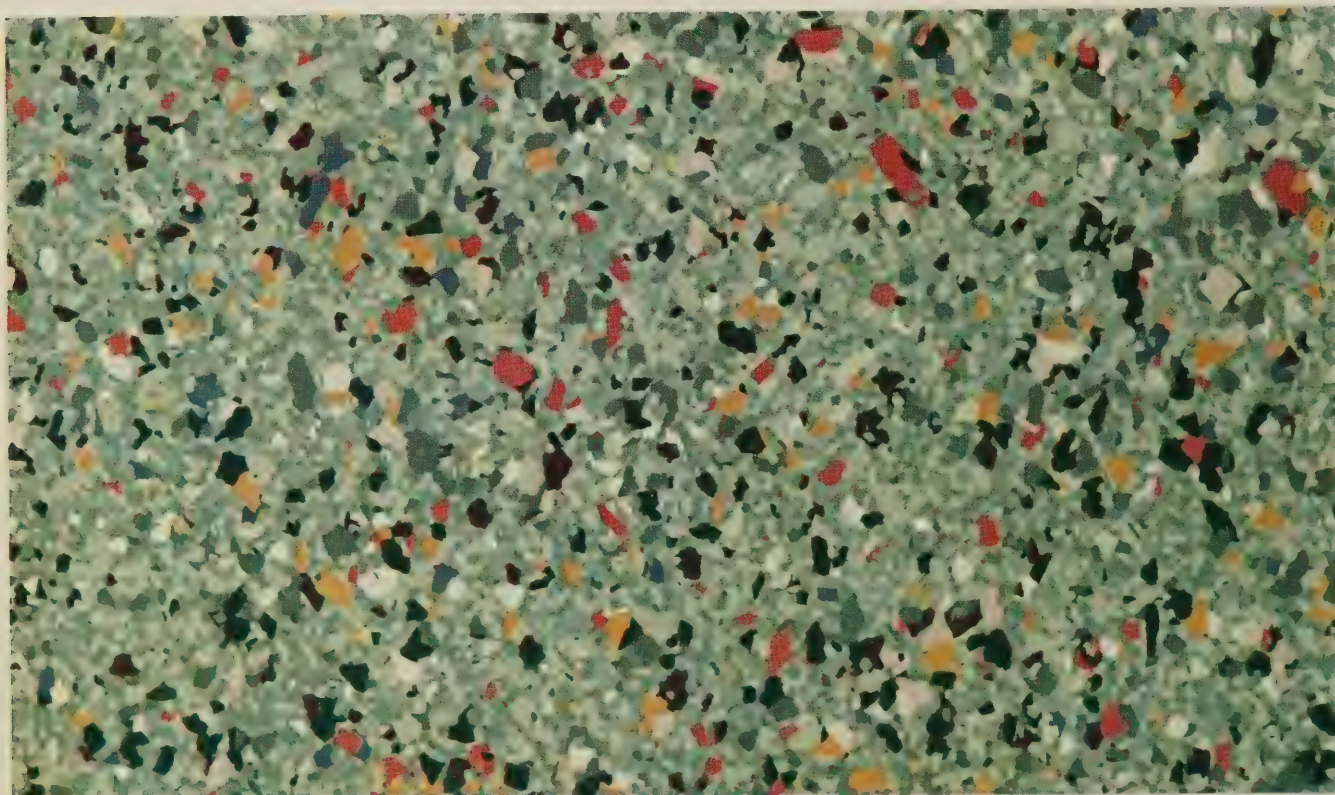
Armstrong
TERRAZZO CORLON

2 yards wide



No. 6202

Approximately 1/2 actual size



No. 6203

Approximately 1/2 actual size

Armstrong
TERRAZZO CORLON

2 yards wide



Approximately 1/2 actual size

No. 6204



Approximately 1/2 actual size

No. 6205

Armstrong
TERRAZZO CORLON

2 yards wide



No. 6206

Approximately 1/2 actual size



No. 6207

Approximately 1/2 actual size

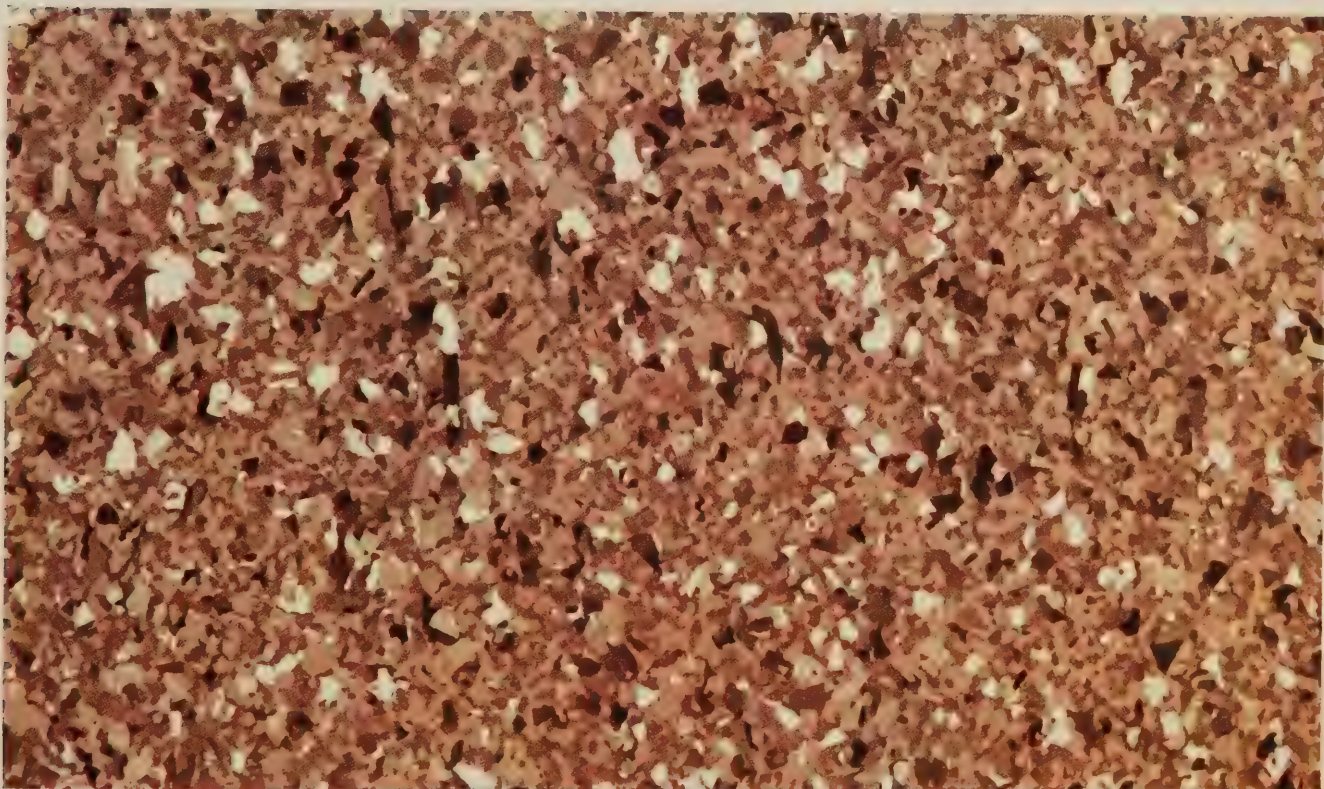
Armstrong
TERRAZZO CORLON

2 yards wide



Approximately 1/2 actual size

No. 6208

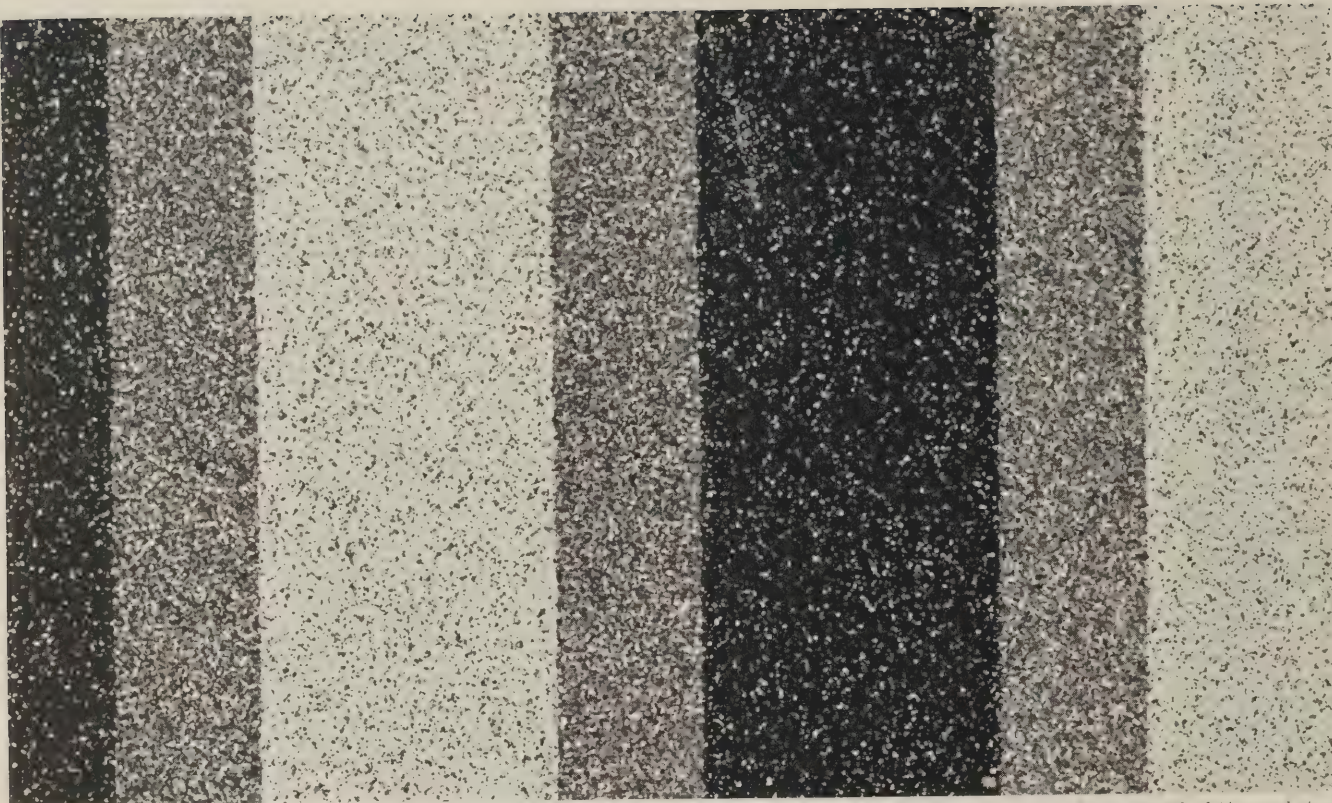


Approximately 1/2 actual size

No. 6209

Armstrong
TERRAZZO CORLON

2 yards wide



No. 6300

Approximately 1/4 actual size

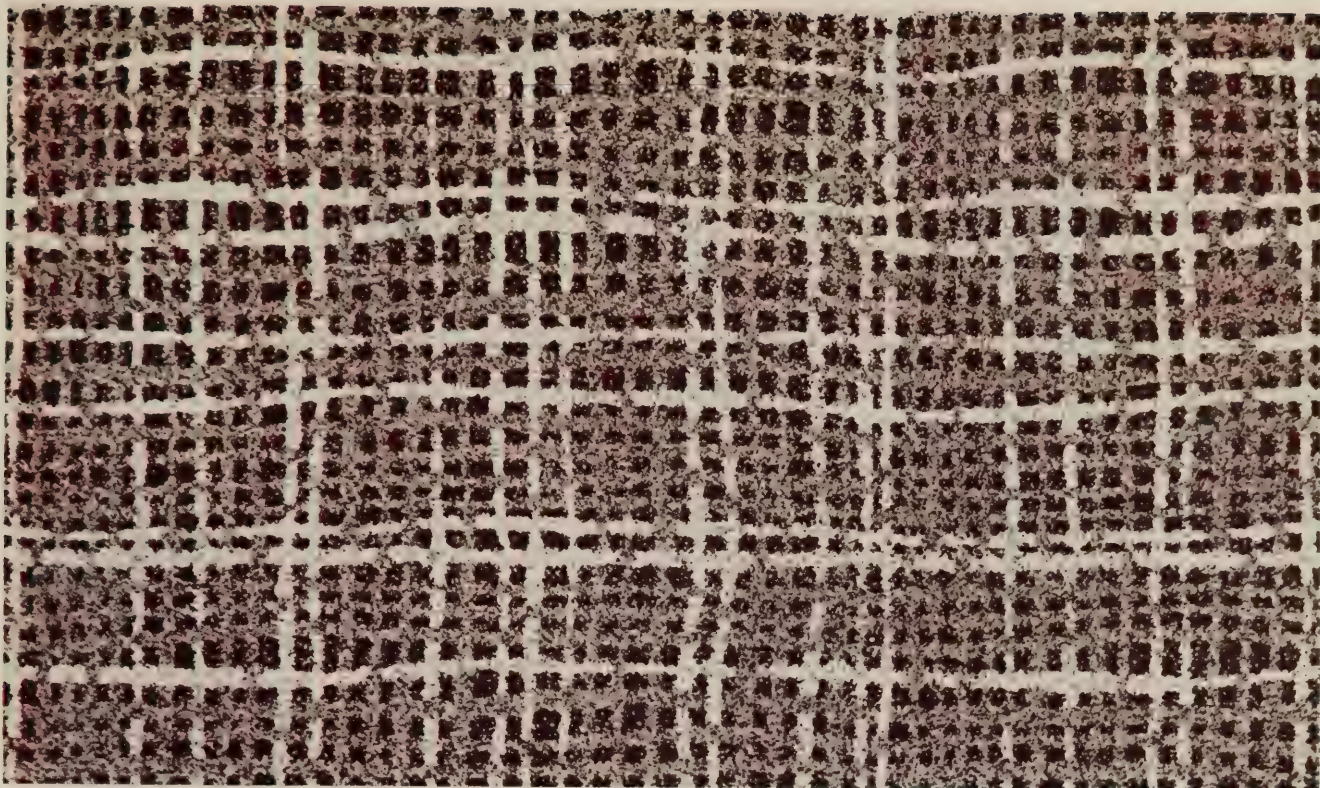


No. 6301

Approximately 1/4 actual size

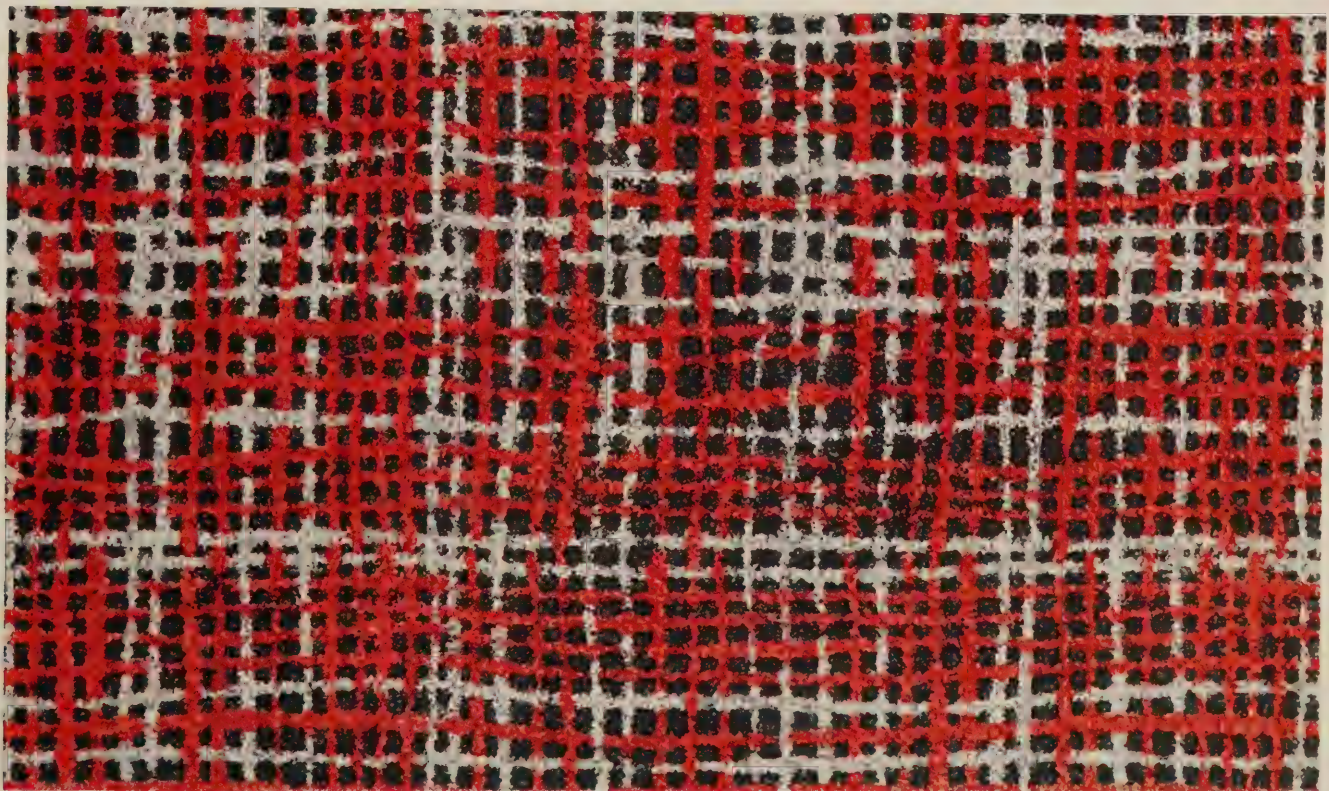
Armstrong
DECORESQ CORLON

2 yards wide



Approximately 1/4 actual size

No. 6310

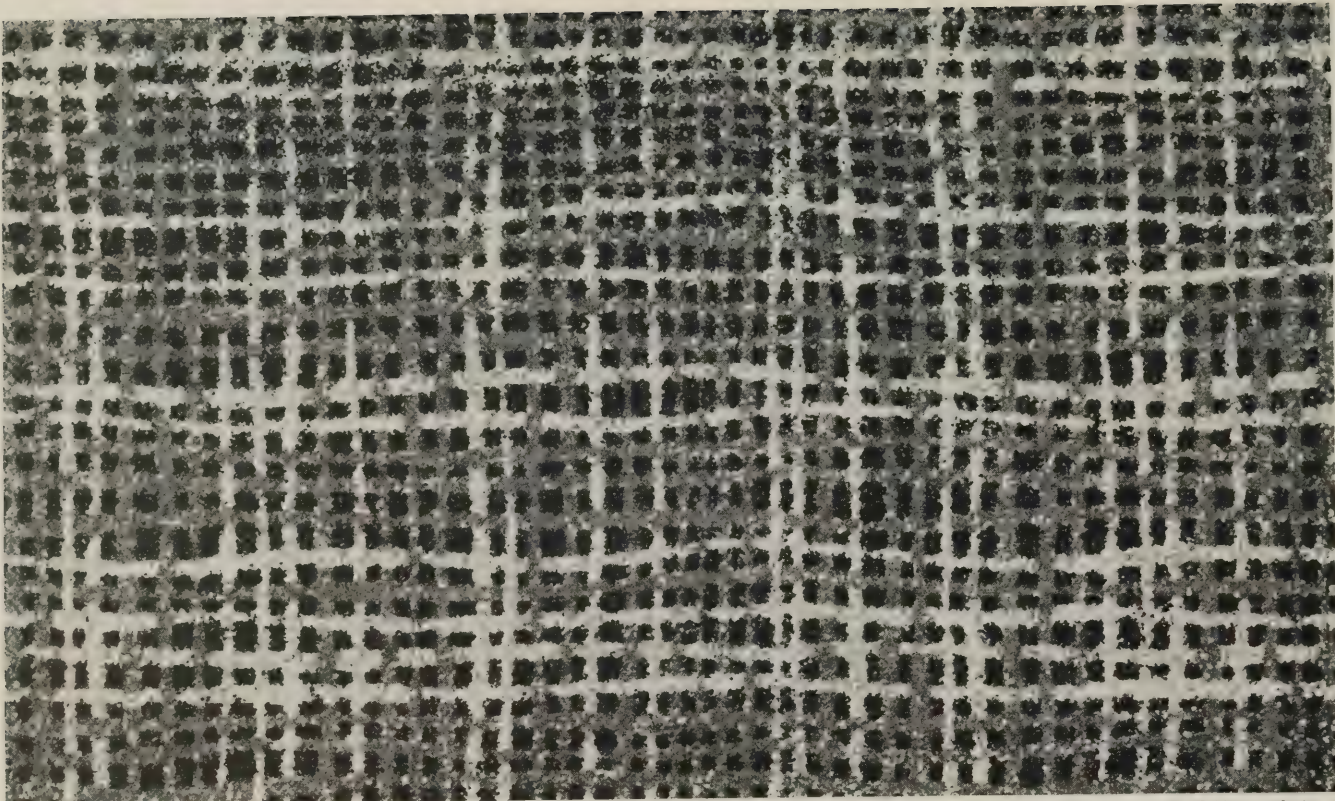


Approximately 1/4 actual size

No. 6311

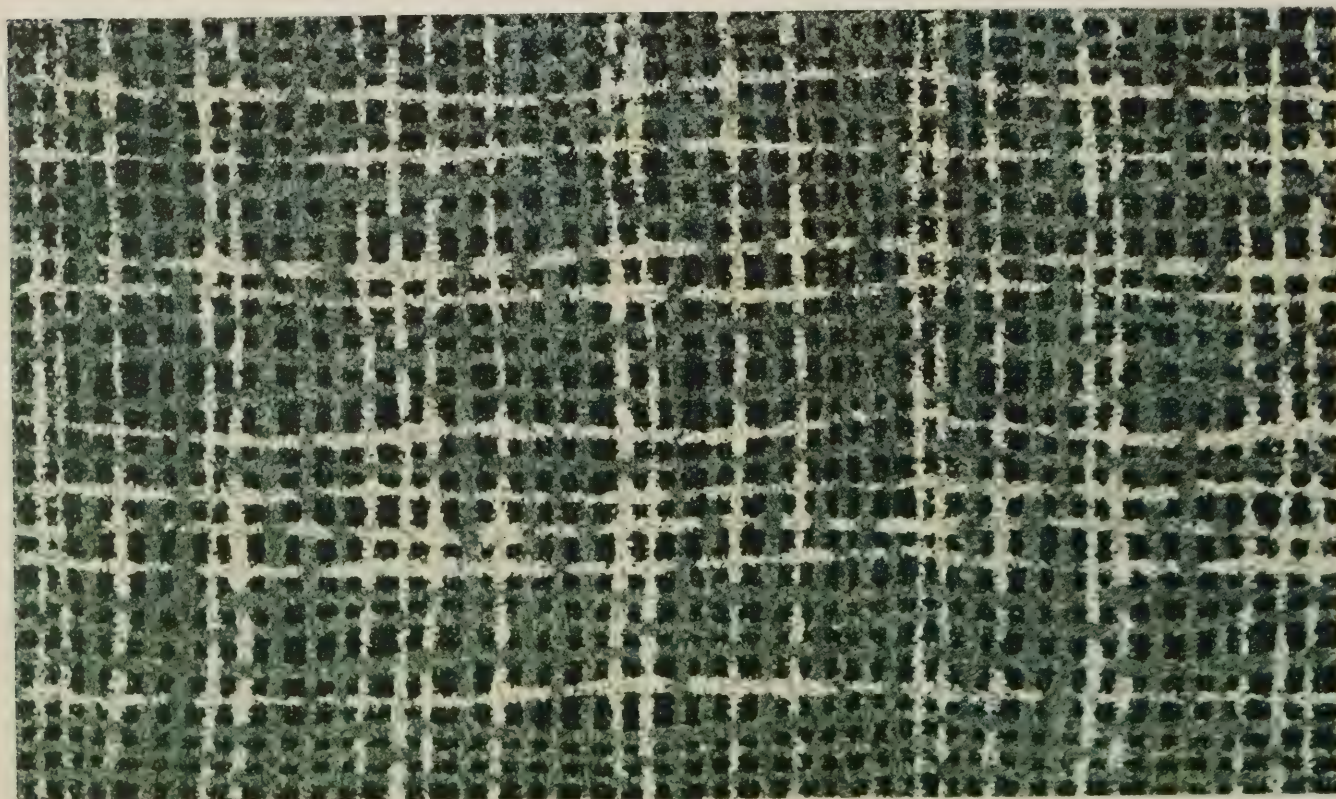
Armstrong
DECORESQ CORLON

2 yards wide



No. 6312

Approximately 1/4 actual size



No. 6313

Approximately 1/4 actual size

Armstrong

DECORESQ CORLON

2 yards wide

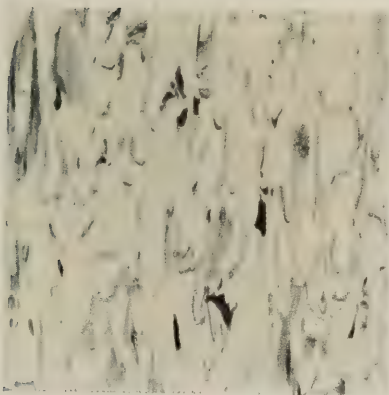
The ultimate in resilient flooring, Armstrong Custom Corlon Tile excels in durability, brilliance of color, and surface sheen. Its finish represents a careful balance between the rich beauty of a glossy sheen and the practical requirements for easy floor maintenance. A full thickness of finest quality vinyl resins, Custom Corlon Tile is dimensionally stable, will not stretch or shrink on the floor; joints stay tight. With the use of specially developed Armstrong adhesives, Custom Corlon Tile can be installed on concrete basement floors and grade-level concrete floors, as well as on all suspended subfloors.

Armstrong CUSTOM CORLON TILE

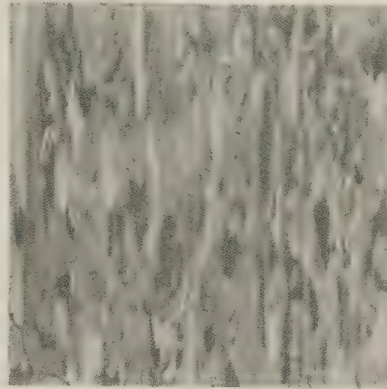
3/32" and 1/8" Gauge

6" x 6", 9" x 9", 12" x 12", 18" x 36"

For suspended, on- and below-grade floors



Carrara White No. 460



Trieste Gray No. 461



Imperial Black No. 462



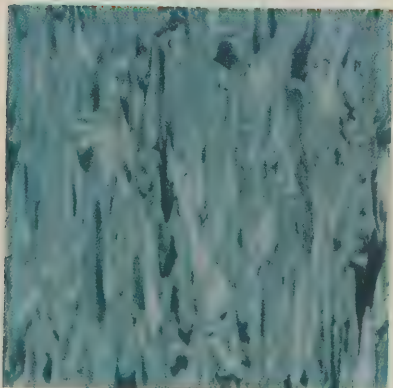
Picardy Red No. 463



Opaline Green No. 464



Pinard Yellow No. 465



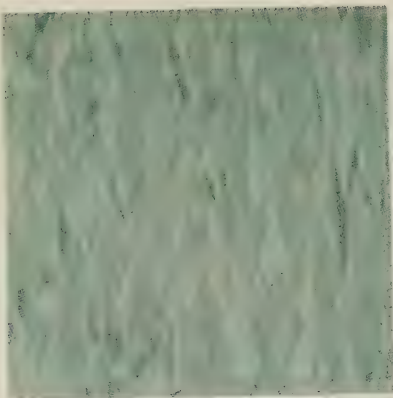
Beryl Blue No. 466



Copra Taupe No. 467



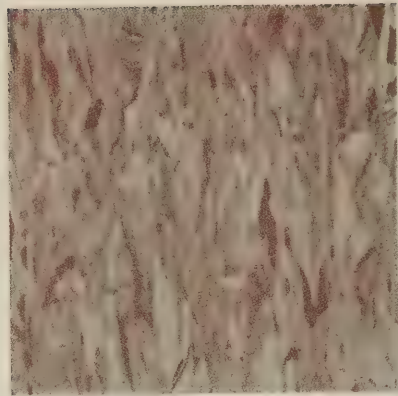
Circassian Walnut No. 468



Aspen Green No. 469



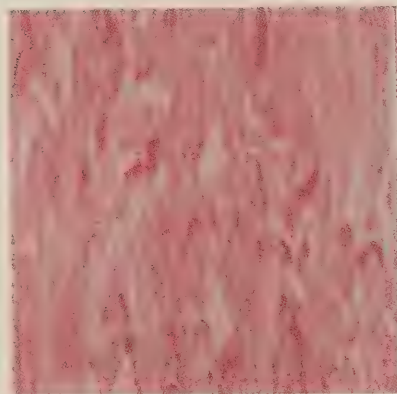
Lava Taupe No. 470



Desert Taupe No. 471



Mist Gray No. 472



Laurel Pink No. 473



Sahara Beige No. 474

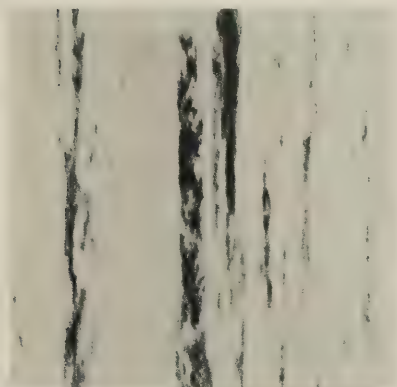


A plastic-asbestos flooring, the vinyl content of Armstrong Excelon Tile gives this material a number of outstanding advantages. Simple to maintain, it also offers excellent grease resistance. Excelon Tile in the 1/8" gauge is a durable floor with exceptional abrasion resistance. Service Gauge Excelon Tile is an economical flooring with good wearing qualities and unusual brilliance of color. Extremely flexible and easy to cut with a knife or shears without heating, the home mechanic will find Armstrong Service Gauge Excelon Tile practical to use. Cutting and fitting at the wall line and around fixtures can readily be done by any handyman.

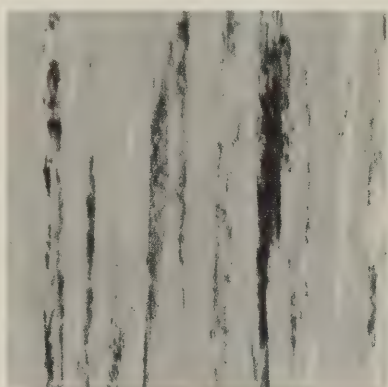
Armstrong EXCELON TILE

Service Gauge (1/16") and 1/8" Gauge
9" x 9"

For suspended, on- and below-grade floors



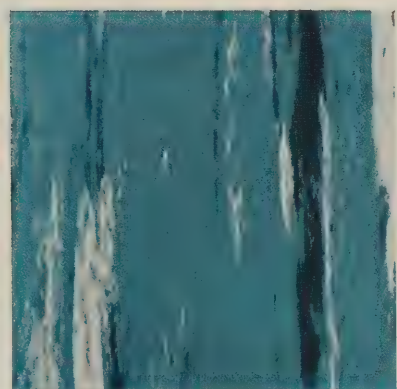
Seneca White No. 770



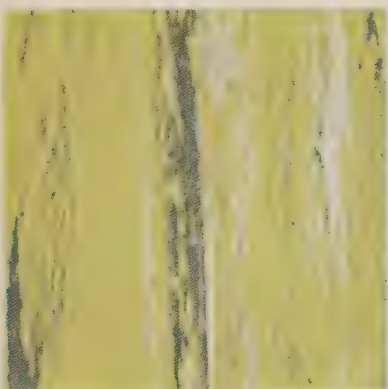
Mohawk Gray No. 771



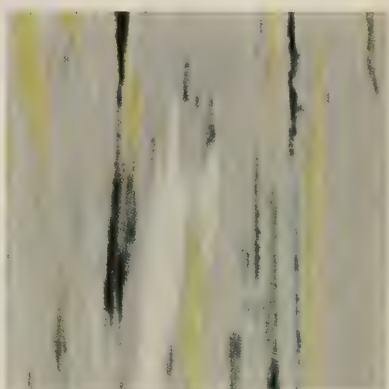
Comanche Black No. 772



Shawnee Blue No. 773



Seminole Yellow No. 774



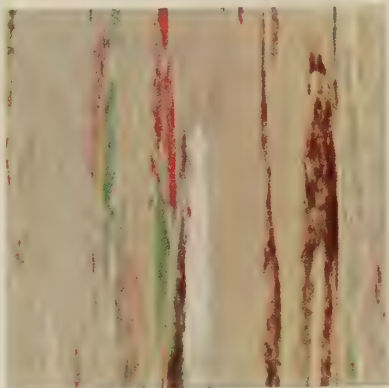
Aztec Gray No. 775



Cherokee White No. 776



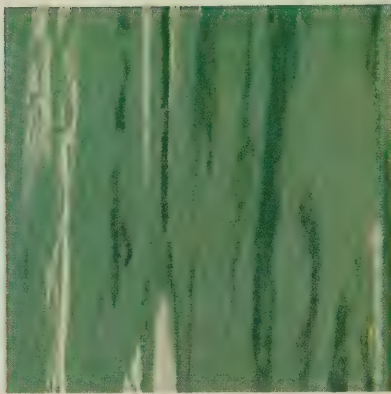
Apache Red No. 777



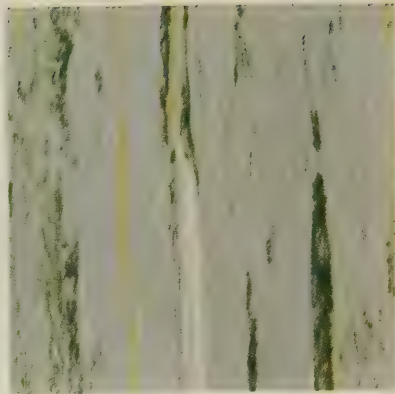
Pawnee Beige No. 778



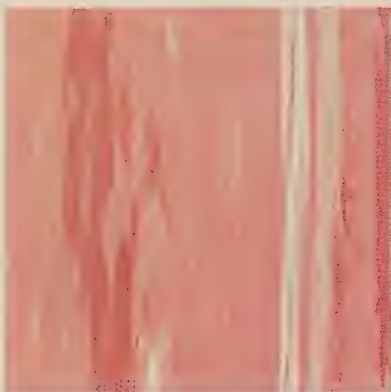
Mohican Cedar No. 779



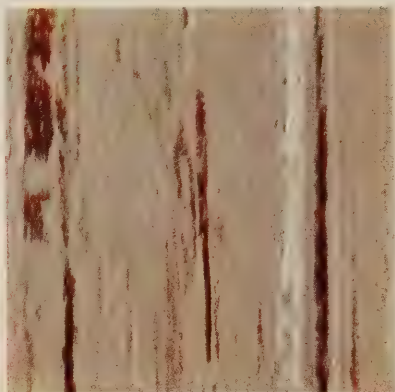
Osage Green No. 780



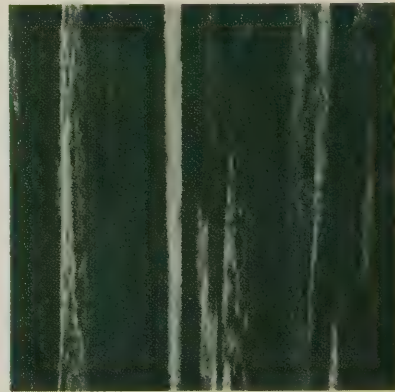
Navajo Gray No. 781



Sioux Pink No. 782



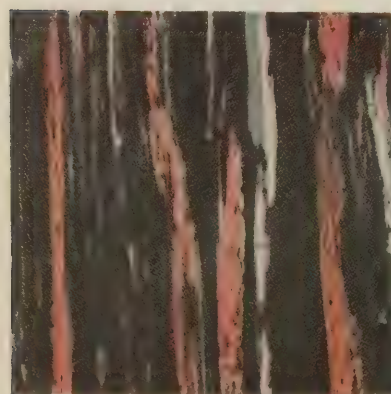
Iroquois Tan No. 783



Choctaw Green No. 784

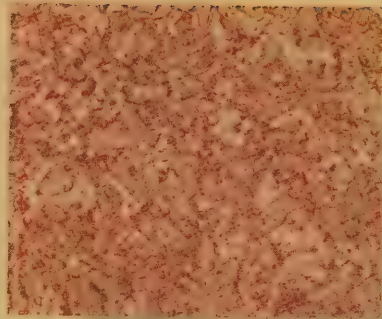
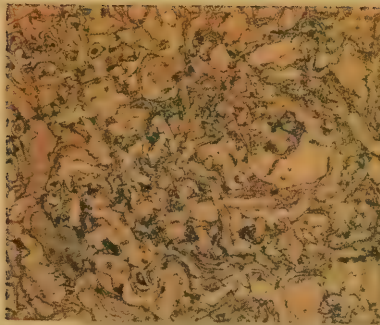


Zuni Brown No. 785



Mohave Charcoal No. 786





Armstrong *Wall Coverings*



Armstrong

LINOWALL

1 and 2 yards wide

Armstrong Linowall is a decorative, long-wearing wall covering made of a linoleum-like composition keyed to a flexible backing. Because of its flexibility and resilience, it is not subject to cracking or chipping. The smooth surface is moisture resistant. Dirt, grease, and ordinary soil marks can easily be removed with a damp cloth. Armstrong Linowall offers a number of qualities not found in other permanent wall finishes. It can be installed on rounded inside and outside corners without the use of vertical moldings. Seams can be made waterproof. Expensive re-finishing is unnecessary. With all these advantages, in addition to its colorful beauty, Armstrong Linowall is an economical wall finish. Linowall should not be used in shower stalls or in bathtub recesses where there is a shower. It can be used, however, on bathroom walls adjacent to such areas.



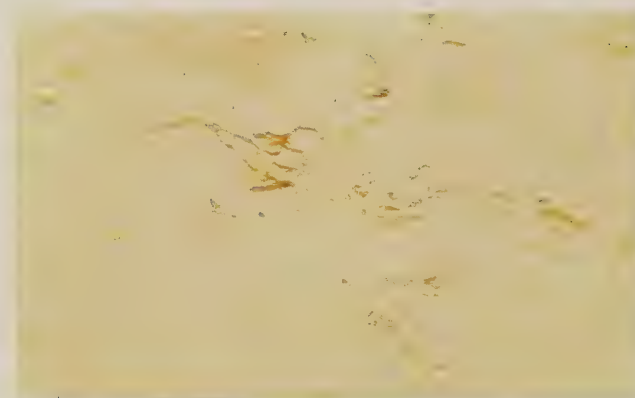
Green No. 700



Dove Gray No. 701



Peach No. 705



Tan No. 706



Mother-of-Pearl No. 707



Primrose No. 708



Camellia No. 712



Moonstone Blue No. 717



Pine No. 730



Walnut No. 731



Silver Gray No. 732



Mist Green No. 733



Blond Tan No. 734

Armstrong
LINOWALL

1 and 2 yards wide

Armstrong

De Luxe

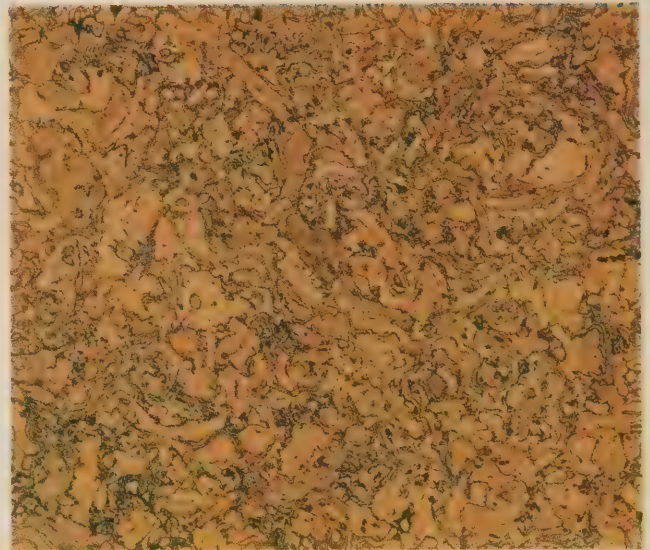
CORKWALL

6" x 12", 12" x 24", 24" x 48"

Armstrong De Luxe Corkwall is made by a new dielectric heating process which holds cork particles together with a special resin binder. This manufacturing advance retains the life of the cork that previous processes baked away. The new high frequency dielectric process also gives Armstrong Corkwall all the strength, beauty, and other desirable characteristics necessary for a fine wall finish material.



Natural No. 440



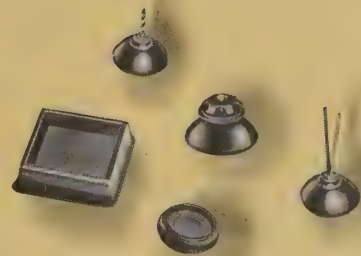
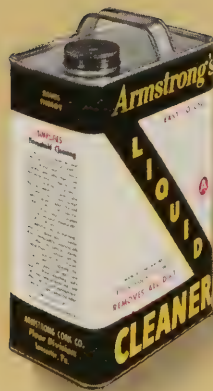
Green Antique No. 441



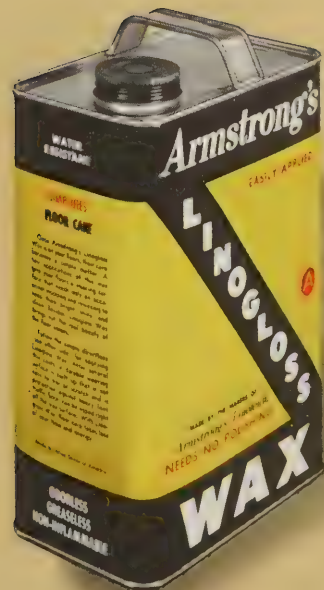
Red Antique No. 442



Blond No. 443



Armstrong *Smudges*

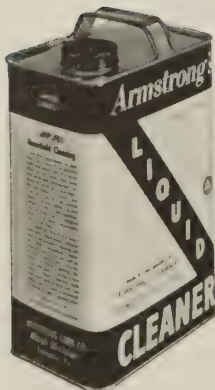
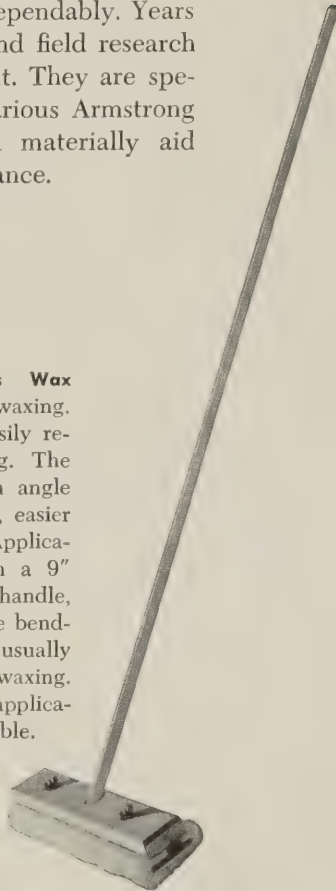


Armstrong

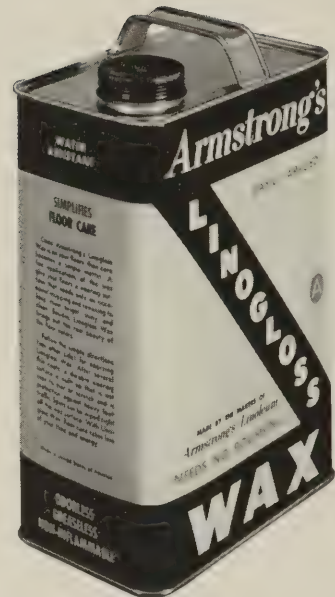
SUNDRIES

The Armstrong Line of sundries includes materials and tools for the installation and maintenance of resilient floors and wall coverings. Each item has been designed to meet a specific need and to fulfill it efficiently and dependably. Years of experience plus laboratory and field research have aided in their development. They are specially made for use with the various Armstrong Floor and Wall Products and materially aid proper installation and maintenance.

Armstrong Linogloss Wax Applicator simplifies waxing. Its wool head is easily removed for cleaning. The handle is set at an angle which makes faster, easier waxing possible. Applicators are made with a 9" head and a 42" handle, which eliminates the bending and stooping usually associated with waxing. Wool replacement applicator pads are available.



Armstrong Liquid Cleaner is a mild, effective, all-purpose cleaner for use on all types of resilient floor coverings. It is also suggested for use on painted walls, woodwork, and furniture. Easy to use, its penetrating action loosens dirt without hard scrubbing. Only a small amount mixed with water is needed for cleaning.



Armstrong Linogloss Wax is a liquid, self-polishing wax which can be safely used on all resilient floors, woodwork, painted surfaces, and wood floors. Made with carnauba, the highest quality raw wax known, Linogloss provides a hard, smooth finish which adds materially to the life of any resilient floor. It is easily applied and dries thoroughly in 20 to 30 minutes. It is unusually resistant to water spotting and will not chip or craze. Only simple buffing by hand is necessary to remove ordinary marks.



Armstrong Furniture Rests provide protection from indentation marks caused by the weight of even the heaviest pieces of furniture on resilient floors, wood floors, and carpets. Five styles and seventeen sizes are available in a rich shade of brown that harmonizes with furniture finishes. They are made of tough, high-quality plastic.



No. S-128 Paste. For use in installing Armstrong Linoleum, Corlon, Cork Tile, Rubber Tile, Custom Corlon Tile, Linotile, and Quaker Wall and Floor Covering. An all-purpose paste for installation on lining felt or directly on suspended wood or concrete subfloors, according to installation specifications. Has unusual spreading capacity, and its consistency permits easy spreading. Has a quick initial tack and exceptional bonding strength. One gallon of S-128 Paste will cover approximately 18 square yards.



No. S-127 Cement, Latex Type. For installation of Armstrong Linowall. S-127 Cement has good initial tack, but allows sufficient time for sliding Linowall into place. It is also recommended for installing Corlon on counter areas. One gallon covers approximately 160-175 square feet.



No. S-214 Waterproof Cement. Effectively surface-waterproofs, seals, and cements the seams of linoleum, Corlon, Linotile, cork tile, rubber tile, and Custom Corlon Tile to suspended floors. Also for installing top-set rubber cove base on suspended areas. One gallon covers 130-150 sq. ft.



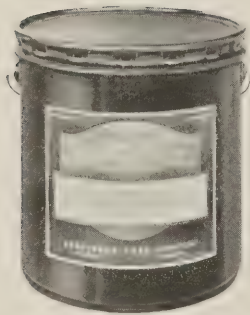
No. S-140 Floor and Wall Size. Effectively retards the absorption of adhesives into dry or porous floor and wall surfaces. Required to seal sanded wood floors. One gallon covers an area of 300-500 sq. ft.



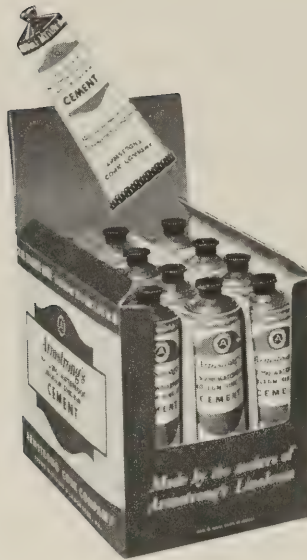
No. S-245 Top-Set Cove Base Cement. For top-set asphalt cove base, cork tile wainscoting, and Corkwall. Moisture-proof. One gallon covers 150-175 lineal feet of 6" base, 175-200 feet of 4" base.



No. S-80 Asphalt Primer. For priming concrete subfloors either on or below grade when making installations of Excelon or asphalt tile. One gallon will cover approximately 300-350 square feet.



No. 5-130 Resilient Tile Paste. A special, quick-setting adhesive for use with resilient tiles other than asphalt or Excelon tile. One gallon covers approximately 17 square yards.



No. 5-290 Waterproof Linoleum Sink Rim Cement. This adhesive forms a lasting watertight seal between linoleum seams and metal rims. One tube is sufficient for the proper installation of the average linoleum sink top. Available in four-ounce tubes only, packaged in an attractive 12-tube display unit, as illustrated above.



No. 5-90 Asphalt Cement. For installing Excelon or asphalt tile over primed concrete subfloors which are in direct contact with the ground. One gallon covers 200-250 sq. ft.



No. 5-160 Emulsion. For installing Excelon Tile or asphalt tile over Lining Felt on wood subfloors and direct to suspended concrete, grade level and below-grade concrete. One gallon covers 130-150 square feet.

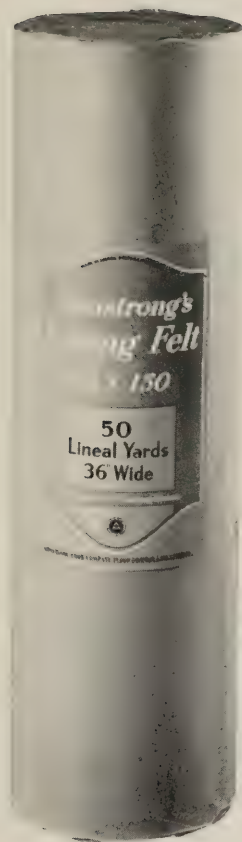
No. 5-104 Chemical-Set Waterproof Cement. Has unique adhesive and waterproof qualities for installing linoleum, rubber tile, Linotile, and cork tile over steel, terrazzo, ceramic, and other non-porous surfaces. Can be used to install Armstrong Rubber Tile and Custom Corlon Tile on grade-level or below-grade concrete subfloors. Has specialized uses with metal trim and other metal fittings. Each unit consists of two parts, one can of powder, one can of paste. Spreading capacity of this adhesive is approximately 100 square feet per gallon.

No. 5-105 Chemical-Set Underlayment Cement. A new latex-type underlayment for use in leveling suspended, on-grade or below-grade surfaces of concrete, terrazzo, ceramic, or metal where the coating required is no more than $\frac{1}{8}$ " thick. It is particularly effective as a skim coat or as a fill requiring feathered thicknesses. This underlayment is packaged in two component parts for on-the-job mixing. Available in one and five gallon units. When the components are mixed, these units produce 3.3 and 16.5 gallons, respectively.



No. 5-170 Flormastic. An emulsified asphalt for use with Lumnite cement and sand as floor fill. Consistency permits "feathering" to a thin edge. For leveling concrete and wood floors.

No. 5-225 On-Grade Cement. A new one-part, factory-mixed alcohol base adhesive that's resistant to the harmful effects of both alkali and moisture. Recommended for use in the installation of Armstrong Rubber Tile, Custom Corlon Tile, and Cork Tile on grade-level concrete subfloors. No. 5-225 On-Grade Cement eliminates the time and expense of on-the-job mixing and, as a result, is easier in its application. Available in five-gallon containers as well as one-gallon cans packed four to a carton.



No. S-150 Lining Felt. A special, semi-saturated rag felt for use under all resilient floorings installed over suspended concrete, terrazzo, marble, ceramic tile, or wood subfloors (must be used under burlap-backed goods laid over wood). Makes floors warmer, quieter, more resilient, and more comfortable.

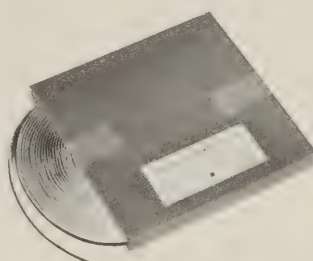
Absorbs much of the expansion and contraction of wood subfloors and helps prevent the spreading of seams in resilient floor installations.

Assures maximum bonding strength and is heavy enough to help smooth out minor irregularities in the subfloor.

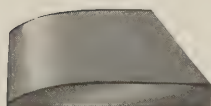
No. S-149 Heavy-Duty Lining Felt provides extra protection against moving floor boards in places which are subject to extreme summer-winter temperature and humidity variations.



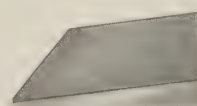
No. S-16 Linoleum Beveled Cap Strip. For use with Linowall and Quaker Wall Covering. Beveled on both edges to save time on the job. Available in assortment of marble and plain colors, in $\frac{1}{8}$ " gauge only. Cartons contain 30 linear feet.



No. S-15 $\frac{5}{8}$ " Radius Linowall Fillet Strip. For filling inside corners on Linowall installations. No. S-29 $\frac{7}{8}$ " Radius Cove Base Fillet Strip should always be used for all flash-type sink top and cove base installations. Each carton contains 50 linear feet.



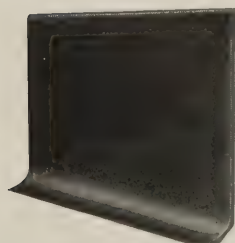
No. S-18 Asphalt Beveled Edging. For use in finishing the edges of resilient floors at doorways or along aisles. Available $\frac{1}{8}$ " and $\frac{3}{16}$ " thick, 36" long, in black only.



No. S-17 Linotile Beveled Edging. For finishing edges at doorways and on aisles. Available in a wide range of marbleized colors, 1" wide and 36" long. Made in $\frac{1}{8}$ " gauge.



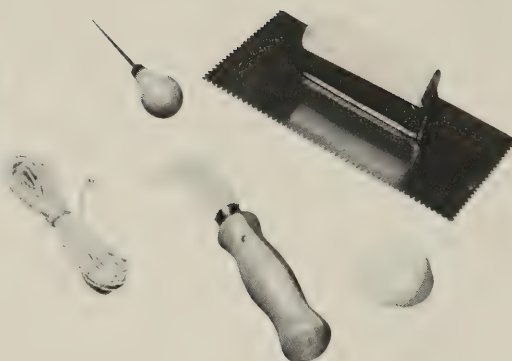
No. S-96 Seam Protector. A sturdy canvas strip designed for pasting under linoleum seams when they are parallel to floor boards. Prevents seams from opening due to seasonal shrinkage of wood floor boards. Rolls are 4" wide and available 100 yards long only.



Top-Set Asphalt Cove Base. Provides a practical, easy-to-clean baseboard treatment for all resilient floor installations. Gives tight fit when nailed or cemented in place. Top-set asphalt cove base is offered in two colors shown on page 126, 4" and 6" high, 48" long.



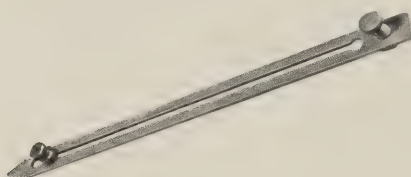
Top-Set Rubber Cove Base. Can be used with all types of resilient floors. Preformed inside and outside corners and left and right end stops can be readily supplied for quicker installations. Available in six colors shown on page 134, 4" and 6" high, 36" long.



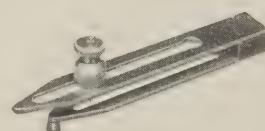
Armstrong Home Mechanic's Kit. Provides the consumer-installer with all the necessary tools and instructions for quick and satisfactory installation of Armstrong Resilient Tiles, Linoleum, and Quaker Wall Covering. It contains chalk and chalk line, for marking center lines and other guide lines in laying out jobs; linoleum knife, for accurate cutting and trimming of materials to exact size; trowel, notched according to Armstrong specifications for easy, proper spreading of adhesives; awl, for scoring and breaking cold asphalt tile for border work; and a group of Armstrong installation and maintenance folders giving complete, easy-to-follow instructions.



No. S-97 Felt Remover. For use in removing either dry or semi-saturated felt. When Felt Remover is mixed with water and applied to the lining felt, felt can then be easily removed with spatula or long-handled scraper.



No. S-84 18-inch Scribing Tool. Sturdy, lightweight, of durable steel. This tool accurately scribes any width from 2 to 16 inches.



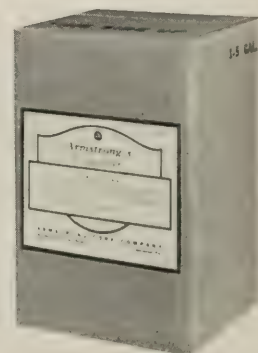
No. S-83 Linoleum Recess Scribing Tool. Small, lightweight, adjustable to all gauges. It is used for scribing linoleum to fit accurately the metal edging on sink tops and square outside corners.



No. S-77 Hand Roller. A sturdy steel tool for use in sink-top and counter-top installations and on other areas that are too confined for use of the regular 100-pound roller.

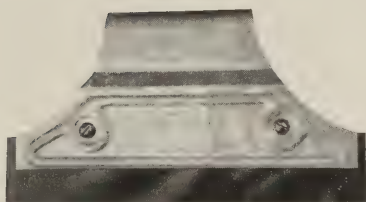
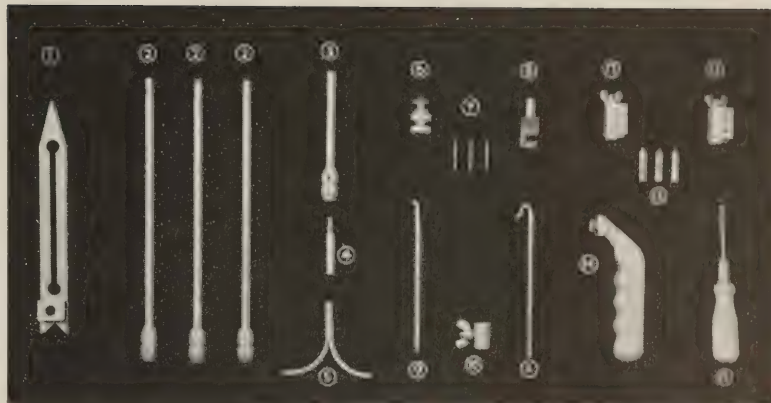


No. S-9 Seam Roller and Fillet Forming Tool. For rolling seams of Linowall to assure a firm bond with the wall surface and to bring both edges of seam tightly together. Also used for rolling Linowall and Cove Base Fillet Strip into place.



No. S-190 Crack Filler. For use in filling cracks and score marks in concrete subfloors. It is supplied in powder form and is mixed with water on the job.

No. S-81 Universal Scribe, an all-purpose tool with many uses, including straight scribing, recess scribing, radius scribing, offset scribing, and circular and curved Lino-strip scribing. Can also be used for cutting circles and circular bands from 1 inch to 7 feet in diameter. Carrying kit has pocket for each part. Compact bundle contains: 1. Universal Bar, 2. 12" Extension Rod, 3. 6" Extension Rod, 4. Scribing Point, 5. Radius Attachment, 6. Pin-Holder, 7. Pins, 8. Pivot-Pin-Holder, 9. Recess Rod, 10. Coupling, 11. Cove Base Rod, 12. Blade Holders (2), 13. Blades, 14. Handle, 15. Screwdriver.



No. S-901 Notched Steel Paste Spreader. Spreads proper amounts of adhesive for floor and wall installations. Removable blade is double-edged for longer life. Steel blade may be replaced by rubber blade (No. S-903, not shown) for use on concrete subfloors.



No. S-891 Notched Steel Trowel. For use in spreading adhesives. New model has aluminum handle. Has notches 1/16" deep and 1/16" wide on one side and one end. End notches give small spreader surface for getting into corners, around pipes, and behind fixtures.



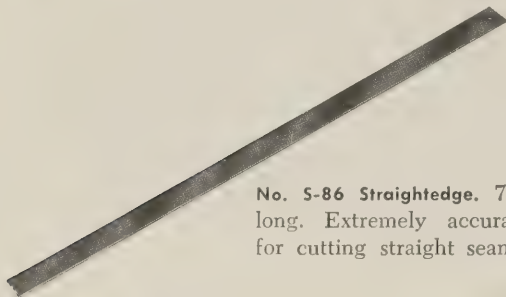
No. S-76 Asphalt Tile Breaker. For cutting cold tile for use in places where the edges of the tile will be covered by molding or cove base. A reasonably clean-cut edge may be obtained by first heating the tiles. (For a sharp clean edge the use of the S-876, Small Asphalt Tile Cutter is recommended.) Made from high-grade cast and malleable iron with tempered steel blades that may be removed for sharpening. The adjustable guide on the side accommodates tiles up to 24" in length.



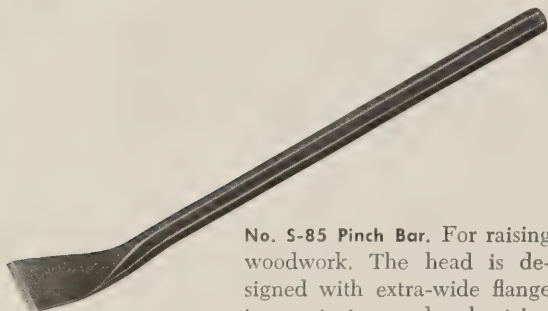
No. S-876 Small Asphalt Tile Cutter. Portable cutter for use on the job. Will handle tiles up to 12" x 12" on the square and up to 9" x 9" on the diagonal.



No. S-87 Straightedge. Short, 37½", 45° angle end designed for mitering corners. Will not kink or warp.



No. S-86 Straightedge. 75" long. Extremely accurate for cutting straight seams.



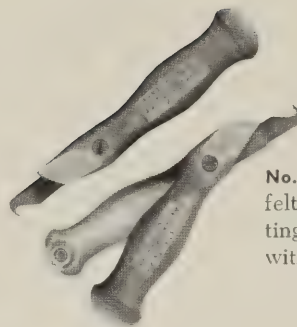
No. S-85 Pinch Bar. For raising woodwork. The head is designed with extra-wide flange to protect woodwork trim.



No. S-11 Linowall Scriber. For quick and accurate scribing when fitting Linowall around bowls, cabinets, door jambs, window frames, and wherever ceilings join the walls.



No. S-95 Sandbags. Of heavy quality duck and tightly sewn. For weighting seams and also for areas where a heavy linoleum roller cannot be used effectively.



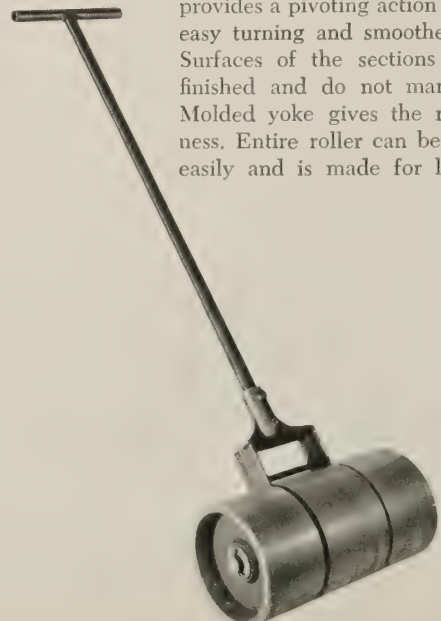
No. S-93 Notched Blade Knife. For cutting felt-base and felt-backed linoleum. Cutting edge does not "gum up." Complete with four blades. Extra blades available.



No. S-99 Linoleum Knife. Small size, regulation style; handy for wall installations and close linoleum cutting.



No. S-92 Linoleum Knife. Tempered steel, regulation size. The blade is properly curved for general installation work.



No. S-72 100-pound Roller. For rolling all resilient floor installations except asphalt tile. Adequate weight for all thicknesses of floor covering. Constructed of solid steel with babbitted bearings which permit free and easy rolling. The three-section construction provides a pivoting action that permits easy turning and smoother operation. Surfaces of the sections are smooth finished and do not mar the goods. Molded yoke gives the roller sturdiness. Entire roller can be taken apart easily and is made for long service.

